ROYAL STATISTICAL SOCIETY
7 SEP 1914

City of Birmingham.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1913.

BIRMINGHAM:
Hudson and Son, Printers, Edmund Street and Livery Street.

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Public Health and Housing Department,
The Council House,
Birmingham,

July, 1914.

TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH AND HOUSING COMMITTEE.

Gentlemen,

The Report which I now submit deals with the general statistics of the City of Birmingham for the year 1913 so far as they relate to the Health of the City and the work of the Public Health and Housing Department.

A number of reports are issued annually by various Departments of the City Council, and by other Authorities, which bear directly or indirectly on the steps taken to promote the general health of the citizens, and it would appear that the time has come for some general issue of all these in one volume. Such a volume would be of greater general value than a collection of separate reports, and it would indicate much more clearly the scope of the work carried on in Birmingham. Very valuable public health work is done by many Committees of the Council, by the Birmingham Tame and Rea District Drainage Board, by the Board of Guardians, the Local Insurance Committee, the City Aid Society, the Charity Organisation Society, the various Associations dealing with Infant Mortality and Child Welfare, all the large Hospitals, etc., etc. It is obvious that the report of the Medical Officer of Health gives a very incomplete record of what is done in any one year for the benefit of the people of Birmingham, and it is equally obvious that he could not properly undertake to record the many and splendid activities that are going on all around us in the City. Such a collection of reports, with an introduction written by a capable person, would, I feel sure, be extremely valuable, not only locally, but throughout this country.

The year under review has from the point of view of the public health been a very good one. On only two occasions in previous years has the general death-rate been as low as it was during 1913. But for the large number of deaths among young infants from epidemic diarrhœa, the general death-rate would have been as low or lower than in any previous year.

The amount of attention paid to matters relating to health has been increasing very rapidly in recent years, with a result that there is a progressive decline in the death-rate, and a corresponding increase in the health of the community.

Among a very considerable proportion of the community there is an eagerness and restlessness to secure even better conditions for themselves and for the community generally, which augurs well for the future. There is at times even a fear lest harm may be done to the cause of progress by the adoption of ill-considered schemes, more particularly as many improvements in the public health are only obtained by the expenditure of large sums of money. It is always a difficult matter to appraise the value from a health standpoint of expenditure on a particular scheme, and in time this increase may make us hesitate to incur further expenditure, even on schemes which are most obviously sound and desirable.

Among the schemes brought into existence in 1913 were the medical, sickness, and maternity benefits under the National Insurance Act. In time it is probable that these will have a profound influence on the public health, but results must not be looked for in this direction for a good many years to come.

The year 1913 saw a somewhat remarkable demonstration of the general effect of legislation in directions least expected. For the first time in Birmingham the beginnings of a house famine were observed, due mainly to the inadequate number of new houses erected during the past few years. The custom of dividing up one house among two or more families has come to be looked upon as so wrong that both owners and occupiers have refrained from countenancing it. The recent shortage of houses, however, has compelled many families to live two in a house, and it may take a good many years to get rid of the custom which has been introduced.

The staff under the direction of your Committee on December 31st last numbered 571. This includes the staff at the hospitals and sanatoria.

It is a great pleasure to me to be able to report that during 1913 your instructions have at all times been carried out by the staff with the best of good feeling, and with a sense that what was being done was a matter of personal responsibility. I have again to thank your Committee for the consideration and kindness shown us during the year.

I am,

Gentlemen,

Your obedient servant,

JOHN ROBERTSON, M.D., B.Sc.

City of Birmingham.

REPORT OF THE MEDICAL OFFICER OF HEALTH

For the year 1913.

POPULATION.

The estimated population of Birmingham at the middle of 1913 was 859,644, an increase of 8,697 on the estimate for 1912. The natural increase by excess of births over deaths was 10,850. If the estimates of population are correct, there must have been a considerable amount of migration to places outside the City boundary.

AGE DISTRIBUTION.

Volume VII. of the Census of England and Wales, which was issued during 1913, gives particulars of the age distribution of the population at the Census of 1911, from which the following figures are taken.

The number of children under 5 years old was 93,093. Between the ages of 5 and 15 years, that is the general period of school life, the number was 170,210, while young people between 15 and 25 years numbered 153,239. There were 262,997 persons between 25 and 45, 125,663 between 45 and 65, and 35,000 over 65.

The details of the distribution of the population as regards both age and sex are shown in the statement below:—

	Old City Area.			Enlarged City Area.		
Age.	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 year ...	6,172	6,155	12,327	9,542	9,314	18,856
1	5,741	5,582	11,323	8,963	8,722	17,685
2	6,278	6,198	12,476	9,680	9,587	19,267
3	6,066	6,210	12,276	9,367	9,580	18,947
4	5,868	5,883	11,751	9,156	9,182	18,338
Total under 5 ...	**30,125**	**30,028**	**60,153**	**46,708**	**46,385**	**93,093**
5	5,744	5,659	11,403	8,923	8,940	17,863
6	5,552	5,600	11,152	8,756	8,741	17,497
7	5,761	5,601	11,362	8,989	8,831	17,820
8	5,623	5,625	11,248	8,854	8,802	17,656
9	5,422	5,459	10,881	8,558	8,660	17,218
10	5,323	5,294	10,617	8,409	8,406	16,815
11	5,307	5,351	10,658	8,201	8,415	16,616
12	5,316	5,376	10,692	8,322	8,385	16,707
13	5,280	5,273	10,553	8,138	8,228	16,366
14	4,851	5,073	9,924	7,598	8,054	15,652
Total 5 to 14 ...	**54,179**	**54,311**	**108,490**	**84,748**	**85,462**	**170,210**

Distribution of the population as regards both age and sex—*continued.*

	OLD CITY AREA.			ENLARGED CITY AREA.		
AGE.	Males.	Females.	Total.	Males.	Females.	Total.
15	4,807	4,960	9,767	7,416	7,907	15,323
16	4,740	5,204	9,944	7,485	8,310	15,795
17	4,728	5,113	9,841	7,308	8,226	15,534
18	4,601	5,275	9,876	7,211	8,603	15,814
19	4,437	5,256	9,693	7,006	8,447	15,453
20 and under 25	21,437	26,123	47,560	33,477	41,843	75,320
25 ,, 30	22,012	24,593	46,605	34,466	40,668	75,134
30 ,, 35	21,482	22,541	44,023	34,428	37,713	72,141
35 ,, 40	18,930	19,640	38,570	30,576	32,678	63,254
40 ,, 45	15,864	16,313	32,177	25,408	27,060	52,468
Total 15 to 44	**123,038**	**135,018**	**258,056**	**194,781**	**221,455**	**416,236**
45 and under 50	13,125	13,568	26,693	20,984	22,215	43,199
50 ,, 55	10,279	11,191	21,470	16,271	18,195	34,466
55 ,, 60	8,038	8,773	16,811	12,762	14,218	26,980
60 ,, 65	6,125	6,874	12,999	9,745	11,273	21,018
Total 45 to 64	**37,567**	**40,406**	**77,973**	**59,762**	**65,901**	**125,663**
65 and under 70	4,308	5,436	9,744	7,007	8,898	15,905
70 ,, 75	2,588	3,651	6,239	4,255	6,112	10,367
75 ,, 80	1,272	1,984	3,256	2,121	3,308	5,429
80 ,, 85	495	939	1,434	861	1,552	2,413
85 ,, 90	117	273	390	245	471	716
90 ,, 95	27	59	86	45	102	147
95 ,, 100	6	5	11	12	9	21
100 and upwards	1	—	1	1	1	2
Total 65 & upwards	**8,814**	**12,347**	**21,161**	**14,547**	**20,453**	**35,000**

The next table sets out the proportion of males and females at certain age periods in ten of the largest English towns. It will be seen that the relative number of children, young adults, and old people varies considerably.

PROPORTION PER 100,000 OF TOTAL POPULATION AT VARIOUS AGE GROUPS :—

Males.	Birming'm	Liverpool	Manchest'r	Sheffield	Leeds	Bristol	West Ham	Bradford	Hull	Newcastle
Under 5 ...	5,559	6,140	5,495	5,915	5,046	4,996	6,474	4,237	6,002	5,748
5 and under 10	5,247	5,511	4,989	5,408	4,872	5,038	6,135	4,056	5,466	5,508
10 ,, 15	4,841	4,995	4,682	4,929	4,775	4,898	5,464	4,248	5,086	5,064
15 ,, 20	4,335	4,401	4,451	4,557	4,460	4,497	4,822	4,354	4,380	4,720
20 ,, 25	3,985	3,995	4,335	4,018	4,061	3,663	3,986	3,997	4,141	4,304
25 ,, 30	4,102	3,945	4,291	4,299	3,953	3,593	3,844	4,075	4,176	4,089
30 ,, 35	4,098	3,844	4,215	4,219	3,879	3,552	3,650	4,048	3,966	4,084
35 ,, 40	3,639	3,508	3,799	3,878	3,678	3,310	3,321	3,805	3,485	3,668
40 ,, 45	3,024	2,875	3,085	3,136	3,136	2,866	2,926	3,192	2,944	2,937
45 ,, 50	2,497	2,396	2,562	2,574	2,680	2,438	2,474	2,881	2,449	2,527
50 ,, 55	1,937	1,974	2,017	2,037	2,174	1,922	2,039	2,318	2,002	1,995
55 ,, 60	1,519	1,482	1,520	1,601	1,742	1,553	1,560	1,850	1,648	1,613
60 ,, 65	1,160	1,221	1,159	1,188	1,296	1,272	1,124	1,336	1,272	1,261
65 ,, 70	834	846	770	818	902	1,030	790	947	902	857
70 ,, 75	506	521	431	453	543	628	436	540	561	488
75 ,, 80	252	212	182	205	223	352	224	267	294	226
80 ,, 85	102	81	65	80	83	153	79	89	105	85
85 ,, 90	29	20	14	18	19	41	28	25	39	27
90 & upwds.	7	6	3	4	3	10	9	5	7	5

Proportion per 100,000 of total Population at various Age groups—*continued.*

Females.	Birming'm	Liverpool	Manchest'r	Sheffield	Leeds	Bristol	West Ham	Bradford	Hull	Newcastle
Under 5...	5,520	6,060	5,466	5,937	5,092	4,922	6,363	4,089	5,951	5,766
5 and under 10	5,234	5,564	5,048	5,425	5,012	5,069	6,038	4,193	5,452	5,486
10 ,, 15	4,938	5,007	4,720	5,017	4,941	5,064	5,574	4,406	5,087	5,021
15 ,, 20	4,938	4,725	4,708	4,785	4,990	5,425	4,708	4,988	4,684	4,831
20 ,, 25	4,980	4,737	4,966	4,390	4,995	5,229	4,361	5,102	4,667	4,934
25 ,, 30	4,840	4,687	4,928	4,449	4,672	4,699	4,135	4,990	4,487	4,507
30 ,, 35	4,489	4,324	4,599	4,215	4,387	4,353	3,790	4,860	4,168	4,203
35 ,, 40	3,889	3,817	4,029	3,770	3,996	3,865	3,443	4,343	3,591	3,614
40 ,, 45	3,221	3,118	3,296	3,057	3,418	3,372	2,897	3,745	3,004	2,982
45 ,, 50	2,644	2,624	2,728	2,530	2,906	2,883	2,519	3,296	2,481	2,484
50 ,, 55	2,166	2,124	2,231	2,064	2,334	2,410	2,029	2,795	2,085	2,015
55 ,, 60	1,692	1,625	1,727	1,640	1,890	1,921	1,546	2,310	1,639	1,583
60 ,, 65	1,342	1,300	1,325	1,278	1,434	1,599	1,175	1,707	1,320	1,238
65 ,, 70	1,059	1,007	993	977	1,092	1,354	914	1,303	1,006	935
70 ,, 75	727	765	676	628	754	980	600	942	741	662
75 ,, 80	394	341	324	317	381	575	307	434	423	338
80 ,, 85	185	143	127	133	136	317	152	169	202	138
85 ,, 90	56	45	36	43	37	114	50	52	68	47
90 & upwds.	13	14	8	8	8	37	14	6	19	10

The distribution of any population over the different age-periods affects in a marked degree its mortality statistics. Among children under five the normal English death-rate is about 50 per 1,000; among school children, *i.e.*, 5 to 15 years, about 3 per 1,000, between 25 and 45, about 6 per 1,000; between 45 and 65 about 20 per 1,000, and over 65, about 80 per 1,000. If, therefore, we have in any community an unusual number of school children and young adults such a community will almost certainly have a very low death-rate, quite apart from its actual healthiness. Similarly, a district with a large proportion of infants or of old people in its population will show a high death-rate, although in reality it may be a healthy area. It is on account of this circumstance that the death-rates of different towns need to be corrected for differences in the age and sex distribution of their population before they can be fairly compared with one another. The figures given on page 16 of this report show that such a correction slightly lowers the death-rate of Portsmouth, but raises the death-rates of the other towns there mentioned by amounts varying from 0·1 to 1·7 per 1,000.

POPULATION AND HOUSES IN WARDS.

In the next table will be found the population of each of the City Wards, its area, and the density of population; also the number of occupied and void houses as shown by the rate books:—

Ward Population, Area, and Occupied and Void Houses.

Ward.	Estimated Population.*	Area in Acres.	Persons per Acre.	Occupied Houses.	Void Houses.
Acock's Green	25,364	2,229	11·4	6,039	241
All Saints'	41,412	520	79·6	8,811	693
Aston	41,104	606	67·8	8,690	375
Balsall Heath	39,508	457	86·5	8,979	400
Duddeston and Nechells ...	40,998	536	76·5	8,723	696
Edgbaston	34,078	2,639	12·9	7,573	279
Erdington (North)	15,218	2,603	5·8	3,539	50
Erdington (South)	16,578	2,032	8·2	3,684	93
Handsworth	26,346	1,415	18·6	6,127	147
Harborne	15,611	2,379	6·6	3,717	60
King's Norton	20,682	3,749	5·5	4,496	92
Ladywood	29,657	299	99·2	6,310	448
Lozells	33,774	354	95·4	7,676	308
Market Hall	16,422	339	48·4	3,494	394
Moseley and King's Heath ...	25,056	1,838	13·6	5,827	283

Ward Population, Area, and Occupied and Void Houses—*continued.*

Ward.	Estimated Population.*	Area in Acres.	Persons per Acre.	Occupied Houses.	Void Houses.
Northfield	7,504	6,406	1·2	1,745	25
Rotton Park	38,980	685	56·9	8,474	437
St. Bartholomew's	34,990	520	67·3	6,998	1,118
St. Martin's and Deritend ...	38,921	410	94·9	8,461	981
St. Mary's	32,203	355	90·7	6,709	663
St. Paul's	29,866	382	78·2	6,437	739
Saltley	26,036	1,198	21·7	5,660	248
Sandwell	18,443	1,538	12·0	4,289	63
Selly Oak	25,912	1,250	20·7	5,633	12
Small Heath	29,317	686	42·7	6,663	16
Soho	26,554	714	37·2	6,035	183
Sparkbrook	36,099	657	54·9	8,022	73
Sparkhill	21,556	2,636	8·2	4,899	65
Washwood Heath	32,078	1,319	24·3	6,825	253
Yardley	15,819	2,786	5·7	3,439	121
Whole City	859,644	43,537	19·7	183,974	9,576

* The inmates of institutions are excluded from the Ward Populations.

The next table shows the number of new houses erected in each Ward of the City during the past five years, the figures being kindly supplied by the City Surveyor:—

Number of Houses Erected during the Last Five Years.

	1908	1909	1910	1911	1912
Acock's Green	0	0	0	0	93
All Saints'	10	12	8	1	0
Aston	8	1	0	0	0
Balsall Heath	20	12	6	0	6
Duddeston and Nechells	9	0	3	0	0
Edgbaston	29	23	29	5	8
Erdington (North)	60	45	43	7	107
Erdington (South)	312	437	117	116	35
Handsworth	214	132	70	22	61
Harborne	25	96	40	28	21
King's Norton	301	231	130	137	16
Ladywood	10	5	3	1	2
Lozells	9	0	0	0	0
Market Hall	0	0	0	0	0
Moseley and King's Heath	112	85	89	85	66
Northfield	66	88	50	35	19
Rotton Park	8	2	2	9	9
St. Bartholomew's	4	0	0	0	13
St. Martin's and Deritend	0	13	0	0	0
St. Mary's	0	0	0	2	0
St. Paul's	0	0	0	0	0
Saltley	547	190	164	149	56
Sandwell	131	76	45	42	41
Selly Oak	153	89	169	155	62
Small Heath	335	342	65	122	16
Soho	220	141	181	60	58
Sparkbrook	1	15	1	0	0
Sparkhill	0	0	0	0	205
Washwood Heath	257	407	570	190	142
Yardley	0	0	0	0	71
Totals	2,841	2,442	1,785	1,166	1,107

OCCUPATIONS.

During the past year the Census Office issued a volume showing the occupations in which the people are engaged in the different sanitary districts of England and

Wales. These figures are of great interest from a public health standpoint for the healthiness of a district is influenced in a marked degree by the nature of the trades carried on in it.

From the following statement some idea can be obtained of the character of the manufactures and trades which predominate in Birmingham:—

	Number Employed.	
	Males.	Females.
On Farms, Woods and Gardens ...	3,039	99
In Mines and Quarries ...	438	14
Iron and Steel Manufacture ...	1,755	29
General Engineering and Machine Making ...	17,129	97
Electrical Apparatus ...	4,003	900
Tool Makers ...	7,287	259
Steel Pen Makers ...	377	3,473
Gun Makers ...	3,503	136
Bolt, Nut, Screw Makers ...	1,145	1,865
Stove, Grate, Range Makers ...	1,540	210
Bedstead Makers (Iron and Brass) ...	3,228	1,161
Wire Drawers and Workers ...	2,347	975
Gas Fittings Makers ...	2,235	854
Lamp Makers ...	1,936	1,773
White Metal, Plated Ware Makers ...	3,465	2,250
Brass, Bronze Workers ...	10,193	4,697
Motor Car and Cycle Makers ...	13,517	4,250
Other Vehicle Makers ...	4,116	256
Goldsmiths, Silversmiths, Jewellers ...	10,281	5,466
Watch, Instrument, Scale Makers ...	2,770	899
Building Trade, Road Making ...	19,665	8
Wood, Furniture, Fittings, Decorations ...	7,746	2,342
Glass Manufacture ...	1,331	232
India Rubber Workers ...	2,380	1,072
Skins, Leather Goods, Harness ...	2,037	2,176
Paper Bag, Box, Stationery Makers ...	270	3,167
Printers ...	3,605	1,240
Textile Manufacturers ...	283	658
Tailors ...	2,141	2,493
Milliners ...	15	1,435
Dressmakers ...	19	5,261
Shirt Makers, Seamstresses ...	87	3,234
Boot and Shoe Makers ...	1,856	173
Milksellers ...	1,200	233
Butchers ...	2,487	344
Bread and Cake Makers ...	1,740	77
Grocers ...	2,607	1,256
Coffee House, Lodging House Keepers ...	484	1,770
Hotel Keepers, Publicans ...	1,806	1,323
Barmen, Cellarmen ...	1,374	571

These figures do not include the large body of commercial clerks (11,057 males and 8,109 females), nor the men and women engaged in various domestic services, nor many of the different classes of shopkeepers. They are also exclusive of the professional classes.

It will at once be apparent how large a part of the business carried on in this City is connected with some branch of the metal trade. About one-half of the people of Birmingham find their employment in this way. On the other hand, there is an almost entire absence of woollen and cotton manufactures, which form the staple industry in such towns as Bradford, Nottingham and Leicester.

The manufactures carried on in Birmingham are obviously of a kind which must result in a good deal of dirtiness in the atmosphere, and in the houses in proximity to the workplaces, and this renders it desirable for as many as possible of the work-people to live in the more outlying parts of the town, away from the districts in which the factories are situated.

At the census there were living in the City 232,664 males and 266,316 females over 20 years of age. Among the males 98·4 per cent. were returned as occupied or retired; among the females the percentage was 36·9.

The total number of women and girls engaged in some business or professional occupation was 136,866. This figure comprised 101,925 returned as single, 23,852 who were married, and 11,089 who were widowed. The total number of married women in the City was 156,873, so that the proportion of married women following some occupation was 15 per cent. Of the 23,852 married women who followed a trade 6,425 were connected with some branch of the metal trade, about one-fourth of the total number.

The following statement shows the proportion of males and females aged ten years and upwards returned as engaged in some occupation in the principal English towns:—

CENSUS 1911.

	Males. 10 years and upwards.					Females. 10 years and upwards.				
	Total.	In Occupations.		Retired or Unoc.		Total.	In Occupations.		Retired or Unoc.	
		No.	%	No.	%		No.	%	No.	%
Birmingh'm	309,758	262,478	84·7	47,280	15·3	349,297	136,866	39·4	212,431	60·6
Liverpool	271,118	224,584	82·8	46,534	17·2	301,579	95,563	31·7	206,016	68·3
Manchester	268,449	231,204	86·2	37,245	13·8	295,888	116,583	39·5	179,305	60·5
Sheffield ...	172,831	150,529	87·3	22,302	12·7	178,670	49,745	27·8	128,925	72·2
Leeds ...	167,560	145,432	86·8	22,128	13·2	188,792	71,575	37·8	117,217	62·2
Bristol ...	127,748	104,456	88·1	23,292	12·2	157,805	59,156	37·5	98,649	62·5
West Ham	106,297	88,372	83·2	17,925	16·8	110,449	32,008	29·0	78,441	71·0
Bradford	109,546	97,716	89·0	11,830	11·0	131,097	59,033	45·0	72,064	55·0
Hull ...	104,128	87,714	84·2	16,414	15·8	110,281	29,070	26·4	81,211	73·6
Newcastle	101,175	85,145	84·2	16,030	15·8	105,420	28,612	27·3	76,808	72·7
Nottingham	94,940	80,948	85·3	13,992	14·7	113,239	51,766	45·7	61.473	54·3
Stoke ...	86,361	74,550	86·4	11,811	13·6	91,060	37,256	40·9	53,804	59·1
Portsmouth	91,615	75,838	82·8	15,777	17·2	92,491	25,895	28·0	66,596	72·0
Salford ...	86,071	74,286	86·3	11,785	13·7	93,893	36,275	38·7	57,618	61·3
Leicester ...	83,462	71,159	85·2	12,303	14·8	98,584	46,769	47·4	51,815	52·6

There is no great difference in the percentage of males engaged in occupations in the different towns, but in the case of females the percentage varies very materially, being as high as 47 per cent. in Leicester and as low as 26 per cent. in Hull.

MARRIAGES.

There were 7,245 marriages recorded in the City during 1913, equal to a marriage rate of 16·9 per 1,000 of the population, against 16·0 in 1912. Comparative figures cannot be given for the present area of the City for past years, but in the old City the marriage rates were as follows:—

1881	16·2 per 1,000.
1891	19·2 ,,
1901	18·8 ,,
1911	19·2 ,,

BIRTHS.

The births registered during 1913 amounted to 23,812, comprising 12,125 males and 11,687 females. The birth-rate was 27·3 per 1,000, a higher figure than in either of the three previous years. The birth-rates in Birmingham and in England and Wales are shown in the following table:—

BIRTH-RATE PER 1,000.

	Birmingham.		England and Wales.	
1871-1875 (Old City)		Average 40·4		Average 35·5
1876-1880 ,,		,, 41·0		,, 35·3
1881-1885 ,,		,, 36·1		,, 33·5
1886-1890 ,,		,, 32·9		,, 31·4
1891-1895 ,,		,, 32·7		,, 30·5
1896-1900 ,,		,, 33·3		,, 29·3
1901 (Extended City)	31·4	,, 30·7	28·5	,, 28·2
1902 ,,	31·2		28·5	
1903 ,,	30·9		28·5	
1904 ,,	31·0		28·0	
1905 ,,	29·0		27·3	
1906 ,,	29·4	,, 28·3	27·2	,, 26·3
1907 ,,	28·8		26·5	
1908 ,,	29·1		26·7	
1909 ,,	27·4		25·8	
1910 ,,	26·8		25·1	
1911 ,,	26·1		24·4	
1912 ,,	26·1		23·8	
1913 ,,	27·3		23·9	

It will be seen that both in Birmingham and in the country generally the fall in the birth-rate, which has been in progress for so many years, seems for the moment to have been arrested.

The next table shows the birth-rates in some of the other great towns :—

BIRTH-RATES IN LARGE TOWNS.

Glasgow	27·9 per 1,000.	Bradford	19·6 per 1,000.
Birmingham	27·3 ,,	Hull	27·5 ,,
Liverpool	29·8 ,,	Newcastle	27·5 ,,
Manchester	25·6 ,,	Nottingham	22·6 ,,
Sheffield	28·2 ,,	Stoke	31·3 ,,
Leeds	23·6 ,,	Portsmouth	24·4 ,,
Bristol	22·4 ,,	Salford	26·2 ,,
Edinburgh	19·5 ,,	Leicester	22·8 ,,
West Ham	30·5 ,,		

The difference in the age and sex constitution of the population has a considerable effect on the birth-rates in the different towns, and accounts to some extent for the wide differences shown in this table.

The birth-rate varied greatly in the different wards of the City. To some extent this variation is the natural consequence of the larger or smaller proportion of married women in the population. In the table following is shown in one column the actual birth-rate recorded in each ward, and in another what the recorded birth-rate is equal to if allowance is made for the relative number of married women. It will be seen that in the case of Edgbaston Ward the rate is raised from 15·9 to 20·4, an increase of 4·5. That is to say, the very low rate in this ward is partly due to the small proportion of married women in its population; if allowance is made for the latter circumstance, the rate more nearly approximates to those in other better class areas, and is indeed above the figure for Sparkhill and for Moseley and King's Heath. On the other hand, the adjustment made in Duddeston and Nechells, where the proportion of married women is large, reduces the rate from 38·4 to 35·9.

The result of "*correcting*" the birth-rate by making allowance for the varying number of married women is that the difference between the highest and lowest wards is somewhat reduced. The extent of the alteration is, however, comparatively slight, for when the corrections have been made the ward birth-rates still range from 18·3 in Sparkhill to 36·3 in St. Mary's.

It may be pointed out that in the central group of Wards, after making allowance for the number of married women, the average birth-rate comes out at 33·5, in the middle ring at 26·9, and in the outer ring at 23·0.

BIRTH-RATES IN WARDS.

		Recorded Birth-Rate.	"Corrected" Birth-Rate.	Increase or Decrease.
Central Wards	St. Paul's	32·1	31·9	− 0·2
	St. Mary's	35·9	36·3	+ 0·4
	Duddeston and Nechells ...	38·4	35·9	− 2·5
	St. Bartholomew's	35·9	36·0	+ 0·1
	St. Martin's and Deritend ...	33·5	33·8	+ 0·3
	Market Hall	25·8	29·2	+ 3·4
	Ladywood	30·6	31·4	+ 0·8
Middle Wards	Lozells	24·0	25·0	+ 1·0
	Aston	32·5	31·8	− 0·7
	Washwood Heath	30·9	28·1	− 2·8
	Saltley	31·6	30·0	− 1·6
	Small Heath	24·3	22·1	− 2·2
	Sparkbrook	25·7	25·5	− 0·2
	Balsall Heath	23·4	23·5	+ 0·1
	Edgbaston	15·9	20·4	+ 4·5
	Rotton Park	30·2	32·1	+ 1·9
	All Saints'	31·1	30·9	− 0·2
Outer Wards	Soho	22·7	23·7	+ 1·0
	Sandwell	22·9	21·7	− 1·2
	Handsworth	20·1	20·6	+ 0·5
	Erdington North	23·7	22·8	− 0·9
	Erdington South	22·5	23·1	+ 0·6
	Yardley	26·0	23·6	− 2·4
	Acock's Green	29·6	26·2	− 3·4
	Sparkhill	18·2	18·3	+ 0·1
	Moseley and King's Heath ...	18·4	19·6	+ 1·2
	Selly Oak	27·4	27·2	− 0·2
	King's Norton	24·3	23·6	− 0·7
	Northfield	22·8	25·6	+ 2·8
	Harborne	23·3	23·5	+ 0·2

There were 730 births shown in the Birth Registers as illegitimate, equal to 3·1 per cent. of the total.

NOTIFICATION OF BIRTHS ACT.

Under this Act there were 22,938 births notified, of which 679 were still-births, equal to 3·0 per cent. of the total. These notifications are made immediately after the birth takes place, whereas registration need not take place until six weeks later. The early information obtained under the Act is of great service to the Infant Visitors, who are able to visit the babies in their districts when they are only a week or two old.

The total number of babies visited either by the Infant Visitors in the special districts or by the Health Visitors in other parts of the town was 16,219, so that about 75 per cent. of the babies born alive received a visit. In the special areas frequent subsequent visits are paid to all babies, and in other districts similar revisits are paid if the circumstances demand it.

A careful record is kept of the notifications, and these are compared with the registrations in order that any un-notified births may be detected. There were 452 of these during 1913, which is equal to only 1·9 per cent. of the total births. In these cases the attention of the parents was called to the provisions of the Act.

DEATHS.

There were 12,962 deaths recorded during the year of persons belonging to Birmingham, of which 6,727 were those of males and 6,235 those of females. They were equal to a death-rate of 14·9 per thousand, against 14·1 in 1912.

The death-rates in Birmingham and in England and Wales since 1871 are given in the table below :—

DEATH-RATE PER 1,000.

	Birmingham.			England and Wales.	
1871-1875	(Old City)		... Average 25·2		Average 22·0
1876-1880	,,		... ,, 22·8		,, 20·8
1881-1885	,,		... ,, 20·7		,, 19·4
1886-1890	,,		... ,, 20·2		,, 18·9
1891-1895	,,		... ,, 20·3		,, 18·7
1896-1900	,,		... ,, 20·5		,, 17·7
1901	(Extended City)	17·5	,, 16·5	16·9	,, 16·0
1902	,,	16·3		16·3	
1903	,,	15·8		15·5	
1904	,,	17·7		16·3	
1905	,,	15·1		15·3	
1906	,,	15·9	,, 15·0	15·5	,, 14·7
1907	,,	15·3		15·1	
1908	,,	15·3		14·8	
1909	,,	15·1		14·6	
1910	,,	13·2		13·5	
1911	,,	15·0		14·6	
1912	,,	14·1		13·3	
1913	,,	14·9		13·7	

With two exceptions the death-rate for 1913 was the lowest in our records.

The following statement indicates the mortality from the more prominent causes of death and shows the particular headings to which the higher mortality in 1913 compared with 1912 is to be ascribed :—

	No. of Deaths in 1913.	Increase or Decrease compared with 1912.
Measles	398	– 184
Scarlet Fever	179	+ 23
Whooping Cough	163	– 174
Diphtheria	169	+ 67
Influenza	112	+ 12
Pulmonary Tuberculosis	1,041	– 68
Other Forms of Tuberculosis	300	+ 92
Syphilis	45	– 2
Cancer	893	+ 87
Meningitis	133	– 15
Cerebral Hæmorrhage, Apoplexy	525	+ 63
Convulsions (under 5)	177	+ 8
Organic Diseases of Heart	1,053	+145
Bronchitis	1,044	– 50
Pneumonia	988	– 49
Inflammation of Stomach	115	+ 21
Diarrhœa and Enteritis	970	+617
Nephritis and Bright's Disease	389	+ 62
Puerperal Diseases	92	+ 19
Premature Birth	499	– 1
Infantile Debility, Icterus, etc.	463	+ 4
Old Age	612	+ 12
Suicides	100	+ 36
Accidents and Negligence	391	– 2
	12,962	+726

If it had not been for the increased mortality from diarrhœa, the death-rate for 1913 would have been practically the same as for 1912.

In the next table will be found the death-rates in certain other large towns. It has already been pointed out that the mortality in different communities must vary considerably according to the age and sex distribution of their populations. In the second column in the table the "standardized death-rate" represents the figure at which the death-rate would have stood if the age and sex constitution had been the same in each town.

DEATH-RATES IN LARGE TOWNS.

	Recorded Death-Rate.	Standardized Death-Rate.
Glasgow	17·2	18·9
Birmingham	14·9	15·5
Liverpool	18·0	18·6
Manchester	14·6	15·8
Sheffield	15·8	16·6
Leeds	15·7	16·6
Bristol	13·0	13·3
Edinburgh	14·4	14·9
West Ham	14·4	15·4
Bradford	15·1	15·9
Hull	14·6	14·7
Newcastle	15·5	16·3
Nottingham	14·3	14·4
Stoke	18·7	19·9
Portsmouth	12·2	12·0
Salford	16·3	18·0
Leicester	13·4	13·7

After allowance has been made for differences in the constitution of the population, Birmingham stands eighth in the above list of seventeen towns.

The death-rate varied very greatly in the different wards. To some extent the differences in the death-rate might be supposed to be due to the age distribution of the population. In order to find out how far this is the case, the age distribution of the population in each of the thirty wards has been obtained from the Census Office, and the death-rates in the wards have been made comparable by the method recommended by the International Bureau of Statistics, in which allowance is made for the different proportion of the population living at five different age-periods. In the statement below, both the recorded and adjusted rates are given, the wards being arranged in three groups to show how widely different is the mortality in the central and outlying parts of the town.

DEATH-RATES IN WARDS.

		Recorded Death-Rate.	Death-Rate corrected for age distribution.	
Central Wards	St. Paul's	20·1	19·3	Average 21·1
	St. Mary's	24·6	24·8	
	Duddeston and Nechells	21·4	21·2	
	St. Bartholomew's	24·0	24·2	
	St. Martin's and Deritend	22·0	21·8	
	Market Hall	19·1	20·0	
	Ladywood	17·1	16·4	
Middle Wards	Lozells	13·2	13·2	Average 14·1
	Aston	16·5	16·8	
	Washwood Heath	13·6	14·0	
	Saltley	13·3	14·4	
	Small Heath	13·1	14·0	
	Sparkbrook	13·2	13·5	
	Balsall Heath	12·7	12·6	
	Edgbaston	12·0	11·6	
	Rotton Park	17·1	15·4	
	All Saints'	15·3	15·4	

DEATH-RATES IN WARDS—*continued.*

		Recorded Death-Rate.	Death-Rate corrected for age distribution.	
Outer Wards	Soho	13·9	13·9	Average 10·1
	Sandwell	9·6	9·9	
	Handsworth	9.5	9·6	
	Erdington North	9·4	9·4	
	Erdington South	9·4	8·6	
	Yardley	9·8	9.9	
	Acock's Green	12·5	12·5	
	Sparkhill	9·7	10·0	
	Moseley and King's Heath	9·0	8·8	
	Selly Oak	12·2	12·0	
	King's Norton	8·6	8·9	
	Northfield	8·9	8·5	
	Harborne	9·9	9·3	

It is clear from these figures that the great disparities in the ward death-rates have very little to do with the age constitution of the population. In most of the wards the correction needed on this account is very trifling, and after it has been made we still find the death-rates ranging from less than 9 per 1,000 in the best wards to considerably over 20 in the worst.

Taking the wards as grouped for the purpose of the foregoing table, the average death-rate in the different groups is as follows:—

	Population		Average death-rate
7 Central Wards.	Population 223,057	...	Average death-rate 21·1
10 Middle Wards.	,, 352,386	...	,, ,, 14·1
13 Outer Wards.	,, 260,643	...	,, ,, 10·1

It will be interesting to see which of the main causes of death are concerned in causing the excessive mortality in the Central Wards. For this purpose the following table has been prepared:—

DEATH-RATES IN GROUPS OF WARDS.

	Central Wards.	Middle Wards.	Outer Wards.
Tubercular Diseases	2·36	1·40	·98
Cancer	1·08	1·04	1·00
Heart Disease	1·47	1·22	·99
Bronchitis	2·10	1·12	·56
Pneumonia	1·78	1·05	·69
Diarrhœa and Enteritis	2·21	·99	·36
Nephritis and Bright's Disease	·61	·43	·32
*Prematurity and Malformation	27·3	25·1	22·1
*Infantile Debility and Marasmus	29·4	13·4	11·7
Accidents	·74	·39	·28

* Per 1,000 Births.

Perhaps the most important point in the above figures is that it is the "preventable" diseases which cause most of the excessive mortality in the central wards. Diseases like cancer especially, and to a less extent heart disease and kidney disease, which are not generally regarded as preventable, cause only a few more deaths in the central than in the outer wards. But when we come to tubercular diseases, bronchitis and pneumonia, diarrhoea and enteritis, and infantile debility, all of which must be considered preventable, we find the mortality is from two to six times as high in the central as in the outer wards. It is interesting to find that prematurity does not differ very greatly in the three groups, but infantile debility is much higher in the central areas.

The mortality from accidents shows how much more the class of people who inhabit the centre of the town are exposed to the danger of fatal accidents, either at their work or in some other way.

In the statement following the wards are arranged in order of their death-rate, and figures showing the character of the housing accommodation are given side by side with the death-rates.

Mortality in Relation to Housing Conditions.

Ward.	Recorded Death-Rate, 1913.	Percentage of Houses.				
		Under 5/- per week.	Back to Back.	In Courts.	No Water in House.	No separate Closet.
St. Mary's	24·6	48	56	36	50	66
St. Bartholomew's	24·0	45	47	29	39	59
St. Martin's and Deritend ...	22·0	44	56	36	51	71
Duddeston and Nechells ...	21·4	43	40	29	44	62
St. Paul's	20·1	49	63	42	58	74
Market Hall	19·1	31	54	34	51	68
Ladywood	17·1	36	57	35	47	69
Rotton Park	17·1	27	31	18	23	41
Aston	16·5	20	24	18	19	30
All Saints'	15·3	29	34	19	31	45
Soho	13·9	7	6	2	9	10
Washwood Heath	13·6	8	5	2	8	11
Saltley	13·3	6	4	4	6	8
Lozells	13·2	16	25	16	22	28
Sparkbrook	13·2	10	10	7	10	15
Small Heath	13·1	5	6	3	5	8
Balsall Heath	12·7	9	10	6	17	24
Acock's Gree	12·5	4	0	0	4	2
Selly Oak	12·2	5	3	1	3	5
Edgbaston	12·0	10	20	11	19	24
Harborne	9·9	6	2	0	12	11
Yardley	9·8	6	3	0	6	3
Sparkhill	9·7	2	0	0	4	2
Sandwell	9·6	1	2	1	2	3
Handsworth	9·5	2	3	2	4	4
Erdington North	9·4	5	1	0	6	6
Erdington South	9·4	2	0	0	1	2
Moseley and King's Heath ...	9·0	3	1	0	5	5
Northfield	8·9	22*	3	1	14	10
King's Norton...	8·6	5	1	0	6	5

* Largely Country Cottages.

It will be seen that in the least healthy wards a very large percentage of the houses are let at a low rent, and that they do not conform to the minimum requirements of a healthy house, viz., that it should have through ventilation, should not be in a closed court, and should have its own water supply inside the house and its own sanitary conveniences.

It has been possible during the past year to obtain statistics relating to the three Model Estates which have been established in Birmingham. The main features in these statistics are shown below :—

	Estimated Population.	Birth-rate per 1,000.	Death-rate per 1,000.	Infant Mortality Rate.
Bournville	4,123	13·1	4·8	55
Harborne Tenants... ...	1,750	30·3	6·3	20
Ideal (Bordesley Green) ...	763	32·8	7·9	80
Total of Three Estates	6,636	19·7	5·5	45

The data on which these figures are based are somewhat small, but, allowing for any possibility of error from this cause, the figures are very striking.

INFANTILE MORTALITY.

Certain general observations on Infant Mortality and suggestions for extending the special preventive work will be found in a separate report at the end of this one.

There were 3,070 deaths of infants under one year of age, equal to a rate of 129 per 1,000 births. The rates for previous years are given in the table following:—

Infantile Mortality Rate.

	Birmingham.		England and Wales.	
1871-1875 (Old City) ...		Average 182		Average 153
1876-1880 ,, ...		,, 164		,, 145
1881-1885 ,, ...		,, 161		,, 139
1886-1890 ,, ...		,, 173		,, 145
1891-1895 ,, ...		,, 176		,, 151
1896-1900 ,, ...		,, 199		,, 156
1901 (Extended City)	176	,, 157	151	,, 138
1902 ,,	144		133	
1903 ,,	147		132	
1904 ,,	179		145	
1905 ,,	141		128	
1906 ,,	157	,, 131	132	,, 117
1907 ,,	133		118	
1908 ,,	130		120	
1909 ,,	121		109	
1910 ,,	115		105	
1911 ,,	150		130	
1912 ,,	111		95	
1913 ,,	129		109	

On three occasions previously the mortality among infants was somewhat lower than in 1913. Last year the weather was unfavourable to infant life during a long period in the summer, with a result that no less than 685 deaths of infants from diarrhœa and enteritis were recorded instead of 198 in 1912.

(See Charts D and E of special report on Child Welfare at the end of this report.)

The next table shows the infant mortality in other large towns:—

Infantile Mortality in Large Towns.

Glasgow	129 per 1,000.	Bradford	127 per 1,000.
Birmingham	129 ,,	Hull	130 ,,
Liverpool	132 ,,	Newcastle	122 ,,
Manchester	129 ,,	Nottingham	131 ,,
Sheffield	129 ,,	Stoke	169 ,,
Leeds	136 ,,	Portsmouth	90 ,,
Bristol	98 ,,	Salford	143 ,,
Edinburgh	101 ,,	Leicester	119 ,,
West Ham	107 ,,		

Throughout the year 1913 the special work in connection with Infant Mortality in certain poor-class areas was carried on under the direction of Dr. MacCallum. The following is a report of this work:—

Public Health Department,
February, 1914.

Sir,—I beg to submit the following report for the year 1913.

In August a fourth Consultation was opened for the Ladywood and Market Hall district in rooms at 44a Broad Street. At the other three Consultations the work has proceeded on the lines indicated in the report for 1912.

The general statistics relating to the individual centres, with totals for the whole four, are given in the following table:—

Statistics Relating to Work in Areas during 1913.

	St. George's and St. Stephen's.	Duddeston and Nechells.	St. Martin's and Deritend.	Ladywood and Market Hall. (Aug.-Dec., 1913.)	Total.
Total number of births	1,485	1,591	1,264	570	4,910
Births attended by Doctor ...	239 (16%)*	289 (18%)	176 (14%)	254 (46%)	958 (20%)
,, ,, Doctor and Midwife ...	24	72	16	4	116
,, ,, Midwife only	1,068	1,164	921	276	3,429
Born in Institutions	113	22	33	10	178
Illegitimate Births per 1,000 ...	29	20	23	31	22
Excluded from subsequent visiting. Stillbirths ...	68	58	44	10	180
Better class houses	23	38	104	21	186
Wrong addresses	18	6	14	5	43
Dead at first visit	41	41	44	17	143
Mother employed before confinement	736	582	557	228	2,103
Mother not employed	708	965	589	316	2,578
Premature Births among former per 1,000	36	27	38	23	26
Premature Births among latter per 1,000	16	16	16	23	15
Mothers who have attended Infant Consultations	564	372	687	178	1,801
Total number of attendances ...	1,939	1,426	2,994	550	6,909
	(18 twins)	(16 twins)	(20 twins)	(8 twins)	
Condition at first Visit: Good ...	1,012 (69%)†	1,113 (71%)	906 (77%)	391 (71%)	3,422 (70%)
Not good...	341	351	169	134	995
Dead ...	41	41	47	17	146
Stillborn ...	68	58	44	10	180

* Percentage reckoned on 1,444, 1,547, 1,146, and 544 Births respectively.
† Percentage reckoned on 1,462, 1,563, 1,166, and 552 Babies respectively.

The total number of births coming under notice in connection with these four Consultations was 4,910, or more than one-fifth of the total for the whole City. The number of these in which there was no doctor in attendance was 3,429.

Children kept under Observation for One Year.

The remaining figures in this report apply to children born in the St. George's and St. Stephen's area in 1912 and kept under observation for one year. In the other areas the work has not been going on long enough for similar statistics to be available.

The total number of babies born alive in this area was 1,344 (4 twins), and 52 stillbirths were registered. Of these 1,344 children 33 were excluded as coming from better class houses, 20 were never found, and 268 were lost sight of.

This leaves 1,023 children kept under observation, and of these 186 died, giving an infant mortality rate of 182 per 1,000 births.

The 1,019 mothers of these 1,023 children comprised 524 who were industrially employed, and 495 who were not. The mortality among their infants was as follows:—

Infant Mortality and Employment of Mother.

			Infant Mortality per 1,000.				
	Births.	Deaths.	1912	1911	1910	1909	1908
Mother employed in a factory, etc. ...	524	100	191	191	153	179	190
Mother not employed...	495	86	174	192	161	169	207

The health of the infants who survived was as follows :—

HEALTH OF INFANT AND EMPLOYMENT OF MOTHER.

	In good health.	In fair condition.	In poor health.
Mother employed	66%	27%	7%
Mother not employed	65%	30%	5%

It does not appear from these figures that the infants whose mothers are industrially employed have a substantially different mortality or condition of health from those whose mothers are not so employed. It has been pointed out before that the additional income where the mother is at work may probably account for this.

The history of the previous confinements of the same mothers was as follows :—

	Employed.	Not employed.	Total.
Total number of mothers... ...	524	495	1,019
Children born alive per 100 mothers...	261	401	339
Children now living per 100 mothers...	169	279	232
Died in 1st year per 1,000 born	237	173	201
Miscarriages and stillbirths per 100 mothers	28	32	30
No previous confinements per 100 mothers...	20	8	15

The next table shows the mortality among the infants, according to the ages of the mothers.

MORTALITY OF CHILDREN ACCORDING TO MOTHER'S AGE.

	Under 25 years.			25—35 years.			35 and over.		
	Births.	Deaths.	Rate.	Births.	Deaths.	Rate.	Births.	Deaths.	Rate.
Industrially employed	803	153	190	1,308	214	163	502	95	189
Not industrially employed	357	70	196	1,154	190	164	597	106	177
Total	1,160	223	**192**	2,462	404	**164**	1,099	201	**182**

The general inference from the foregoing tables is that there is little difference in the infantile mortality where the mother is at work and where she is not.

The next table shows the influence of poverty on the infantile mortality.

INFANT MORTALITY RATE AND WAGES OF FATHER.

	Father out of work or earning less than £1 a week. Infant Mortality.		Father earning £1 per week or over. Infant Mortality.
Mother employed	260	...	152
Mother not employed	250	...	144
Total	263	...	148

The enormous difference where there is extreme poverty is clearly seen in the above figures, and this difference is fully borne out by the experience of previous years. Moreover, the next table indicates that this fatal influence of extreme poverty is equally apparent even when the baby is fed in the best way, *i.e.*, at its mother's breast, although even among the poorest breast feeding saves a large number of lives.

INFANT MORTALITY RATE AND POVERTY IN RELATION TO METHODS OF FEEDING.

	Father out of work or earning less than £1 per week.	Father earning £1 per week or more.	All Cases.
Baby fed at breast	183	90	113
Fed by hand (partly or entirely)	265	160	197
Total	224	117	149

The next two tables indicate the effects of poverty and of methods of feeding on the health of the babies who lived through the first year.

HEALTH OF SURVIVORS AND WAGES OF FATHER.

	Father's Wages less than £1.			Father's Wages £1 or more.		
	Good.	Fair.	Bad.	Good.	Fair.	Bad.
Mother employed	59%	33%	8%	69%	27%	4%
Mother not employed	53%	39%	8%	67%	29%	4%
Total	57%	35%	8%	68%	28%	4%

POVERTY AND HEALTH OF BABIES.

	Father's Wages less than £1.			Father's Wages £1 or more.		
	Good.	Fair.	Bad.	Good.	Fair.	Bad.
Breast fed	65%	29%	6%	73%	25%	2%
Partly artificial	59%	37%	4%	74%	22%	4%
Entirely artificial	40%	45%	15%	49%	41%	10%
Total	57%	35%	8%	68%	28%	4%

The figures as a whole indicate very clearly that poverty and artifical feeding are responsible for much of the excessive mortality among infants, and also for much of the impaired health with which many of the survivors start their life.

The following figures relate to children born in the two areas in which work was commenced a year and a half ago:—

CHILDREN BORN JUNE TO DECEMBER, 1912, IN DUDDESTON AND NECHELLS, AND KEPT UNDER OBSERVATION FOR 1 YEAR.

Total number born alive	834	
Stillbirths	25	
Better class houses	11	Excluded from subsequent visiting.
Lost sight of	173	
Never found	4	

646 infants kept under observation, and of these 125 died, giving infant mortality rate of 193 per 1,000 births.

CHILDREN BORN JUNE TO DECEMBER, 1912, IN ST. MARTIN'S AND DERITEND, AND KEPT UNDER OBSERVATION FOR 1 YEAR.

Total number born alive	734	
Stillbirths	21	
Better class houses	55	Excluded from subsequent visiting.
Lost sight of	63	
Never found	8	

608 infants kept under observation, and of these 92 died, giving infant mortality rate of 151 per 1,000 births.

Yours obediently,

A. B. MacCALLUM, M.B., Ch.B.

INFECTIOUS DISEASES.

The deaths during the year from certain of the more important infectious diseases are set out in the statement below:—

Disease.	Deaths in 1913.	Average 1903-12.	Above or below the average.
Enteric Fever	20	51	− 31
Smallpox	0	2	− 2
Measles	398	323	+ 75
Scarlet Fever	179	116	+ 63
Whooping Cough	163	286	−123
Diphtheria	169	140	+ 29
Diarrhœa and Enteritis	970	882	+ 88
Pulmonary Tuberculosis	1,041	978	+ 63
Other Forms of Tuberculosis	300	296	+ 4

The prevalence of the chief notifiable diseases is shown in the next table:—

Disease.	Cases in 1913.	Average 1903-12.	Above or below the average.
Enteric Fever	102	262	− 160
Smallpox	0	38	− 38
Scarlet Fever	8,447	3,814	+4,633
Diphtheria	991	1,104	− 113
Erysipelas	804	792	+ 12
Pulmonary Tuberculosis	4,229	—	—
Other forms of Tuberculosis	967	—	—
Puerperal Fever	112	49	+ 63
Ophthalmia Neonatorum	222	—	—

In addition to the above, the following cases were reported by the elementary school teachers:—

Measles	3,661
German Measles	85
Whooping Cough	2,638
Chicken Pox	2,422
Mumps	4,253

ENTERIC FEVER.

The cases and deaths from this disease have been as follows:—

	Cases.		Deaths.		Death-rate for England and Wales.
	No.	Rate.	No.	Rate.	
1901	842	1·11	133	·18	·15
1902	718	·92	133	·17	·13
1903	517	·67	81	·10	·10
1904	350	·45	59	·08	·09
1905	292	·37	51	·06	·09
1906	286	·36	55	·07	·09
1907	360	·45	76	·09	·07
1908	261	·32	61	·07	·07
1909	179	·22	33	·04	·06
1910	122	·15	31	·04	·05
1911	148	·18	35	·04	·07
1912	102	·12	30	·04	·04
1913	102	·12	20	·02	·04

It is gratifying to be able to record that the low rate of incidence of this disease continues. The sickness rate in England and Wales for 1913 was ·22 per 1,000 of the population, while that in Birmingham was ·12. In the 78 County Boroughs 18 show a lower attack rate than that in this large manufacturing town.

The number of cases in which there was a definite history of eating mussels two or three weeks before the onset fell further during 1913, *i.e.*, from 33 in 1912 to 17 in 1913.

A great deal of attention was paid by the Health Department during the year to what appeared to be a purely local outbreak of Enteric Fever in the south-west area of the City. Despite the most careful and repeated enquiries no satisfactory explanation of the origin of the outbreak could be obtained. In addition to the cases occurring within the City Boundary certain cases were ascertained to have occurred in rural areas beyond the boundary. The cases occurred in areas widely apart; the most easterly case was one at Moseley, while the most westerly occurred at Rednal. The time incidence of the onset in weeks was as follows:—

			Cases.				Cases.
Week ending	March	15	1	Week ending	April	26	0
,,	,,	22	1	,,	May	3	1
,,	,,	29	2	,,	,,	10	0
,,	April	5	1	,,	,,	17	0
,,	,,	12	8	,,	,,	24	1
,,	,,	19	2	,,	,,	31	0

Milk, etc., watercress, shellfish, fried fish, and other foods could be definitely excluded as the cause of the outbreak. In one instance a patient visited some friends who were not infected and contracted the disease ten days afterwards. She is said to have partaken of afternoon tea only.

Such a defined outbreak in Birmingham is of very rare occurrence, especially at a time of the year when the so-called endemic form of the disease is at its lowest ebb.

The fact that no reasonable explanation for the fifteen cases occurring in March and April was forthcoming is extremely unsatisfactory, and indicates that for the immediate future careful watch must be kept for any likely explanation.

During the latter part of 1913 it was found that certain patients who contracted enteric fever had consumed mussels from a defined area in Wales. This area was one of those in regard to which a certificate had been obtained to the effect that mussels were gathered from an area free from sewage pollution. There appeared to be so much evidence that the incidence of enteric was greater on those consuming mussels from this area that on December 12th Dr. Davison, Assistant Medical Officer of Health, and Inspector Wiltshire were sent to make a local investigation. On their return Dr. Davison reported that he had seen the boats and shore men in the act of gathering these mussels in areas some of which were liable to the grossest contamination of sewage matter, while in many other cases there were obvious liability to pollution. The Public Health and Housing Committee at once asked all the wholesale importers of mussels to meet them—the facts were explained, and an undertaking was willingly obtained to refrain from drawing any supplies from the polluted area.

It is desirable to put on record how loyally the wholesale mussel importers have supported the action of the Public Health Committee in their attempt to deal with the prevention of enteric by mussels imported from polluted sources. Both during 1913, as in previous years, whenever a source of supply was reasonably suspected to be an undesirable one, the wholesale dealers immediately ceased to import. Their action has undoubtedly been of great assistance, and has helped materially in diminishing the cases of Typhoid Fever.

Advantage was taken by medical practitioners of the facilities provided by the Corporation at the Pathological Department of the University for the free examination of blood samples for Widal re-action. There were 111 such examinations made as compared with 91 in 1912.

Several cases occurred during the year where it was necessary to examine the stools and urine of persons suspected to be carriers, and two such were by these means located.

SMALL POX.

No case of this disease was reported in Birmingham during 1913. There were, however, a good many false alarms during the year. In some instances the disease supposed to be small pox resembled it very closely. It has been regarded as a part of the duty of the Medical Staff of the Health Department to be at the call of any Medical Practitioner to assist in diagnosis.

The small pox cases and deaths since careful records were commenced are seen in the table below.

	Cases Notified.	Deaths Registered.
1872	1,977	299
1873	794	122
1874	3,791	637
1875	824	173
1876	11	0
1877	50	8
1878	27	5
1879	4	0
1880	18	2
1881	16	6
1882	89	17
1883	1,202	110
1884	471	64
1885	84	12
1886	2	0
1887	12	2
1888	18	0
1889	0	0
1890	0	0
1891	47	7
1892	27	0
1893	979	70
1894	2,074	171
1895	100	8
1896	14	4
1897	0	0
1898	0	0
1899	0	0
1900	2	0
1901*	1	0
1902	91	4
1903	325	14
1904	15	0
1905	41	1
1906	1	0
1907	0	0
1908	0	0
1909	0	0
1910	0	0
1911	1	1
1912	0	0
1913	0	0

* Since 1901 the figures apply to the City as now constituted.

In England and Wales 34 sanitary districts had cases of small pox in them during 1913, the total number of cases being 90. There were also 25 cases reported on ships arriving at various ports in this country.

The accommodation for dealing with this disease in Birmingham consists of 24 hospital beds for a population of 850,000, and no special provision is available for dealing with "contacts"—obviously a very inadequate arrangement.

VACCINATION.

The following statement shows the amount of vaccination performed in regard to infants whose births were registered during the year ending June 30th, 1913 :—

Births returned	22,695		
Conscientious objections	2,532, or	11·2%	of total.
Died unvaccinated	1,833		
Successfully vaccinated	15,276, or	73·2%	of survivors.
Insusceptible	53, or	0·3%	„
Postponed by medical certificate	419, or	2·0%	„
Removed to other districts	259, or	1·2%	„
Lost sight of	1,800, or	8·6%	„
Still under notice	523, or	2·5%	„

MEASLES.

The epidemic of measles which commenced in 1912 and extended into 1913 was one of the most extensive and fatal on record. The total number of deaths occurring between July, 1912, and June, 1913, was 899.

The whole epidemic may properly be considered first and then that part of it which occurred in the year under review.

The distribution of the mortality over the City was as follows :—

WHOLE EPIDEMIC, JULY, 1912, TO JUNE, 1913.

			Population, 1913.	Deaths from Measles.	Death-Rate per 1,000
NORTH-WEST DIVISION.	District A.	St. Mary's	32,203	94	2·92
		St. Paul's	29,866	38	1·27
		All Saints'	41,412	58	1·40
	District B.	Soho	26,554	19	0·72
		Lozells	33,774	21	0·62
		Handsworth	26,346	7	0·03
		Sandwell	18,443	5	0·27
NORTH-EAST DIVISION.	District A.	St. Bartholomew's ...	34,990	106	3·03
		Duddeston and Nechells	40,998	121	2·95
		Saltley	26,036	16	0·61
	District B.	Aston	41,104	44	1·07
		Washwood Heath ...	32,078	35	1·09
		Erdington North ...	15,218	4	0·03
		Erdington South ...	16,578	4	0·02
SOUTH-EAST DIVISION.	District A.	St. Martin's and Deritend	38,921	38	0·98
		Balsall Heath	39,508	24	0·61
		Sparkbrook	36,099	33	0·91
	District B.	Small Heath	29,317	20	0·68
		Yardley	15,819	12	0·76
		Acock's Green	25,364	25	0·99
		Sparkhill	21,556	13	0·60
SOUTH-WEST DIVISION.	District A.	Market Hall	16,422	13	0·79
		Ladywood	29,657	35	1·18
		Rotton Park	38,980	39	1·00
		Edgbaston	34,078	9	0·03
		Harborne	15,611	6	0·04
	District B.	Selly Oak	25,912	28	1·08
		Moseley and King's Heath	25,056	4	0·02
		King's Norton	20,682	9	0·04
		Northfield	7,504	0	—

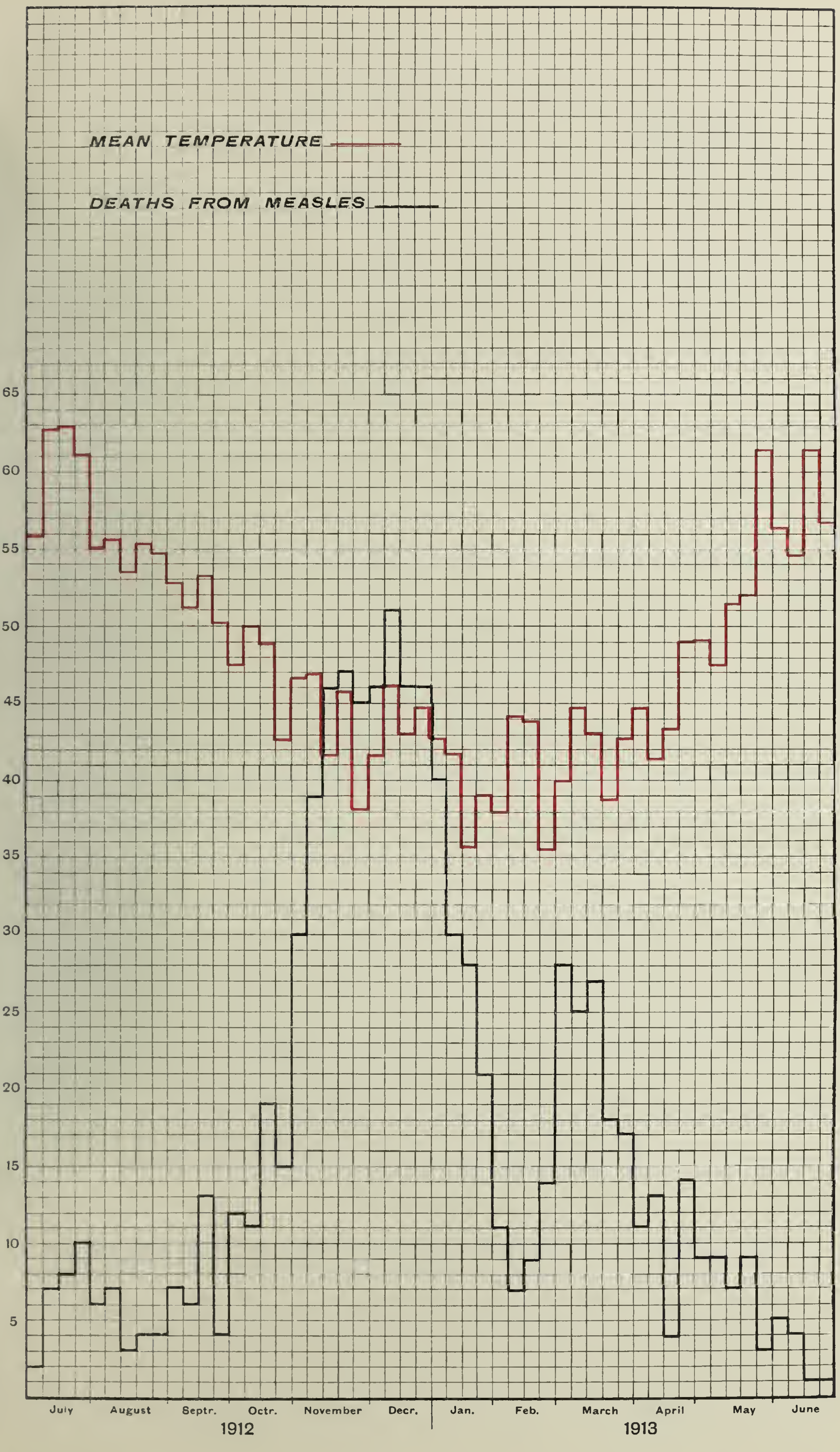
The ages of the children who died were as follows :—

0—1 ...	159	4—5 ...	62	8—9 ...	4
1—2 ...	312	5—6 ...	43	9—10 ...	4
2—3 ...	200	6—7 ...	24	over 10 ...	8
3—4 ...	79	7—8 ...	4		

The weekly incidence of the mortality from measles during this epidemic, together with the mean temperature, is shown on the accompanying chart.

The number of deaths during the statistical year 1913 in which the epidemic partly occurred was 398. Other figures relating to the yearly results will be found in the Tables at the end of this report.

CHART No. I


MEAN TEMPERATURE
DEATHS FROM MEASLES
65
60
55
50
45
40
35
30
25
20
15
10
5
July
August
Septr.
Octr.
November
Decr.
Jan.
Feb.
March
April
May
June
1912
1913

Compared with previous years the deaths were as follows:—

	Birmingham. Deaths.	Birmingham. Rate per 1,000.	England and Wales Death-Rate per 1,000.
1901	372	·49	·28
1902	237	·31	·39
1903	245	·32	·27
1904	243	·31	·36
1905	300	·38	·33
1906	275	·34	·27
1907	409	·51	·36
1908	70	·08	·23
1909	676	·82	·36
1910	42	·05	·23
1911	395	·47	·36
1912	571	·67	·35
1913	398	·46	·28

School teachers reported all cases suspected as being measles, and in this way 3,661 cases were ascertained.

These and all other known cases were visited, and printed and verbal instructions were given.

The same precautions were taken as regards school outbreaks as in the three previous years. These will be found recorded in the Annual Report of the Medical Officer of Health for 1909.

All our methods of dealing with an acute virulent outbreak of measles during the cold months of the year have so far proved very unsatisfactory.

Notification, Hospital Isolation, and many other methods have been tried by other towns with apparently not very encouraging results.

The main facts relating to measles may be summed up as follows:—

(1) On an average 325 deaths have resulted from measles during each year since 1901.

(2) Most of these deaths have been of infants between 1 and 3 years of age, *i.e.*, at an age when the delicate period of infancy has passed and the less dangerous years of life are reached.

(3) Nearly all these deaths occur in the homes of the poor, who appear either by reason of their poverty, or more probably by reason of their ignorance and carelessness, to be unable to take the very simple precautions needed to successfully combat attacks of the disease. Thus during the last epidemic the death-rate was 1·87 in the central wards, 0·80 in the middle ring of wards, and 0·35 in the outer ring of wards. Seldom is a death from measles recorded in a better class home.

(4) Measles is undoubtedly spread among children by school attendance. Probably 93 per cent. of all children attending public elementary schools are attacked before they reach the age of fourteen years.

(5) All methods for combating the disease up to the present have proved more or less unsatisfactory.

SCARLET FEVER.

The notified cases of scarlet fever numbered 8,447 during the year under review, while in 1912 there were 5,505 cases reported.

It will be seen from the following table that the disease was more prevalent during 1913 than in any year since 1901, the incidence being 9·67 cases in every

1,000 of the inhabitants. The type of the disease was relatively a very mild one, 2·1 deaths occurring among every 100 attacks, while in 1902 5·1 deaths occurred per 100 attacks.

SCARLET FEVER CASES AND DEATHS.

	Cases.		Fatality Rate per cent.	Deaths.		Death-Rate for England and Wales.
	No.	Rate.		No.	Rate.	
1901	4,309	5·68	4·13	178	·23	·13
1902	6,617	8·52	5·10	337	·43	·15
1903	4,246	5·48	4·62	196	·25	·12
1904	2,648	3·38	3·17	84	·11	·11
1905	2,372	3·00	2·77	66	·08	·11
1906	2,803	3·51	2·57	72	·09	·10
1907	3,854	4·77	3·09	119	·15	·09
1908	4,004	4·85	3·05	122	·15	·08
1909	4,797	5·82	3·06	147	·18	·09
1910	4,324	5·20	2·73	118	·14	·07
1911	3,587	4·27	2·29	82	·10	·05
1912	5,505	6·49	2·78	153	·18	·05
1913	8,447	9·67	2·12	179	·20	·06

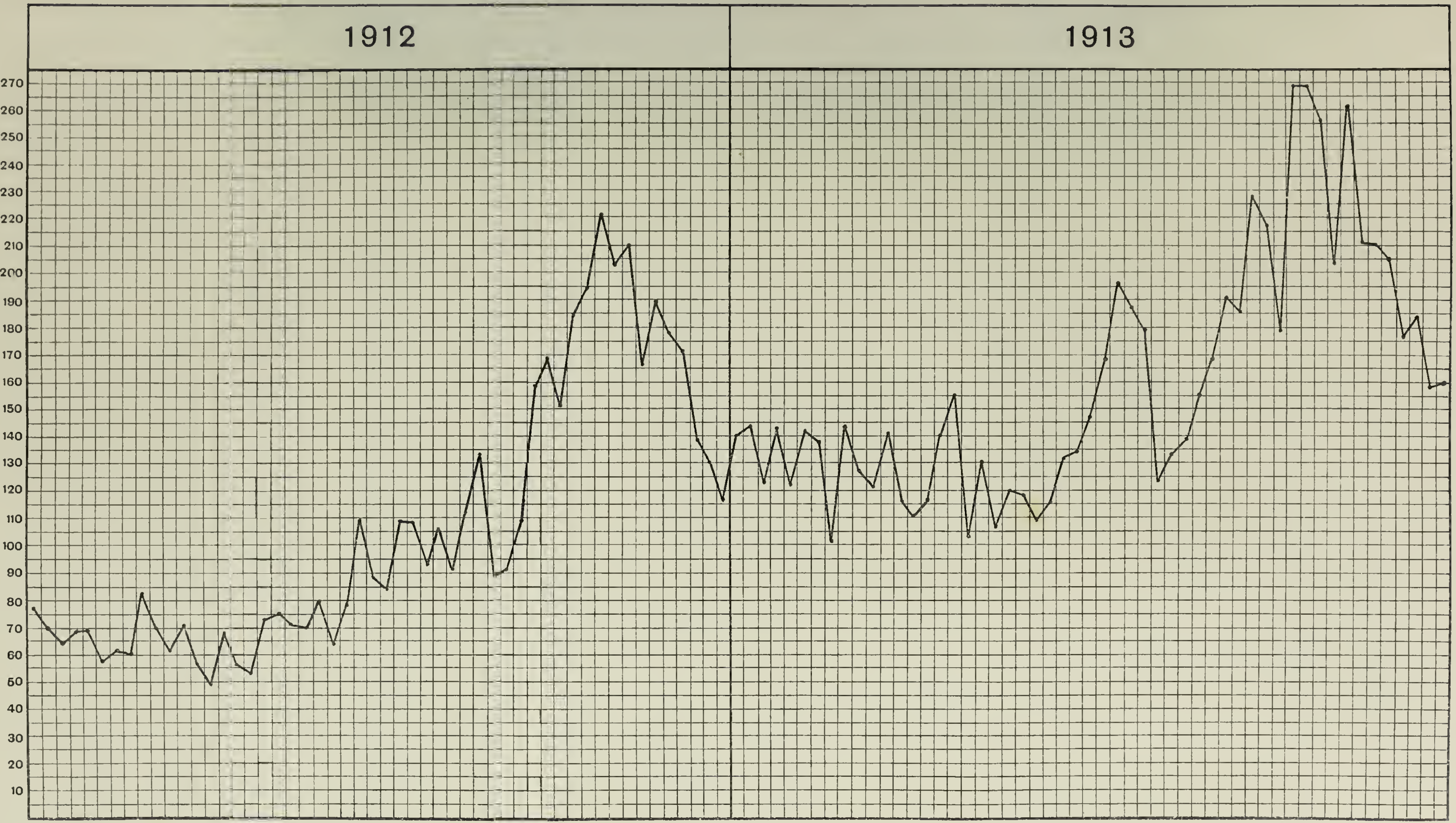
The distribution of the cases in 1913 was as follows:—

Central Wards	St. Paul's	7·5	Average 8·3
	St. Mary's	6·2	
	Duddeston and Nechells	6·6	
	St. Bartholomew's	9·3	
	St. Martin's and Deritend	10·5	
	Market Hall	10·2	
	Ladywood	7·8	
Middle Ring	Lozells	9·1	Average 10·4
	Aston	12·4	
	Washwood Heath	11·9	
	Saltley	11·6	
	Small Heath	13·8	
	Sparkbrook	10·8	
	Balsall Heath	9·5	
	Edgbaston	7·2	
	Rotton Park	8·5	
	All Saints'	9·5	
Outer Ring	Soho	10·6	Average 10·0
	Sandwell	13·4	
	Handsworth	13·6	
	Erdington North	7·6	
	Erdington South	12·0	
	Yardley	13·8	
	Acock's Green	12·4	
	Sparkhill	7·4	
	Moseley and King's Heath	4·1	
	Selly Oak	7·5	
	King's Norton	15·1	
	Northfield	6·3	
	Harborne	6·2	

Unlike measles, tuberculosis and many other diseases, scarlet fever is less a disease of the squalid areas than it is of the suburbs. Its greatest incidence has been among the better class artisan dwellers.

The chart opposite shows the course of the disease in weekly periods since the commencement of 1912.

WEEKLY NUMBER OF CASES OF SCARLET FEVER.



The age incidence of the disease and fatality rate are indicated below :—

SCARLET FEVER CASES AND DEATHS.

	Cases Notified.	Deaths Registered.	Proportion of Deaths to Cases, %.
Under 1 year	61	8	13·1
1 to 2 years	209	19	9·1
2 to 3 ,,	465	29	6·2
3 to 4 ,,	652	34	5·2
4 to 5 ,,	750	30	4·0
5 to 10 ,,	3,764	40	1·1
10 to 15 ,,	1,552	8	0·5
Over 15 ,,	994	11	1·1
All ages	8,447	179	2·1

Using the Census population and the cases notified in the two years 1912 and 1913, the incidence rate in children of various ages is as follows :—

SCARLET FEVER CASES AT VARIOUS AGES.

Ages.	Census Population.	New Attacks of Scarlet Fever in 1912 and 1913.	Incidence Rate per 1,000.
0—1	18,856	94	4·9
1—2	17,685	324	18·3
2—3	19,267	781	40·5
3—4	18,947	1,094	57·8
4—5	18,338	1,316	71·8
5—10	88,054	6,287	71·4
10—15	82,156	2,568	31·3
Over 15	576,899	1,488	2·6

There were 5,742 cases removed to the City Hospitals with a fatality rate of 2·4 %, while 2,705 cases were nursed at home with a rate of 1·6 %.

Of the cases removed to hospital 5 per cent. turned out to be incorrectly diagnosed.

In 1913 the problem of the hospital "return cases" proved very embarrassing.

The definition of a "return case" adhered to in compiling the figures on these cases is as follows :—

"A case of scarlet fever occurring in a house within 28 days of the return from hospital or the release from home isolation of a previous case of this disease."

It will be seen from the figures that a considerable proportion of "return cases" is apparently caused by discharges from the ear, nose, or throat of patients released from isolation, and that these convalescent patients, if at all infectious, are most likely to spread the disease during a period of from 3 to 20 days after they have been released from isolation.

It seems probable that discharges and other complications are most likely to occur about this time, no doubt largely due to catarrhal conditions set up by exposure of the person to changing temperatures, etc., after his removal from the sick room.

We find that infectious discharges occurring after a lapse of 28 days are rare, and when longer periods than this are considered, the element of doubt as to the second case in a house being a "return case" is considerably increased owing to the possibility of outside sources of infection being introduced.

All cases are excluded from the figures in which the diagnosis of scarlet fever in the "infecting case" or in the "return case" was revised or listed as doubtful, or in which it was improbable that the previous patient had been in contact with the "return case."

The number of "return cases" of scarlet fever for the year 1913 was 449, following upon the release from isolation of 354 infecting cases, and involving 370 houses.

The table below gives the figures for previous years :—

Year.	Cases Notified.	Return Cases.	Infecting Cases.
1908	2,275	105	75
1909	2,871	114	101
1910	2,709	133	120
1911	2,258	142	110
1912*	5,505	304	248
1913	8,447	449	354

* Enlarged City.

The "return cases" for the year 1912 formed 5·5 per cent., and for the year 1913 5·3 per cent. of the cases of this disease notified.

The following table shows the hospitals, etc., from which the 354 supposed infecting cases were discharged :—

	Infecting Cases.	% of Admissions.
Little Bromwich Hospital	233	5·9
Lodge Road Hospital	82	6·1
West Heath Hospital	16	4·0
Witton Hospital	12	3·5
		% of Cases treated.
Cases treated at home	11	·43
Total	354	

There can be little doubt that many more "return cases" of scarlet fever occurred in the houses where the primary patient was nursed at home than are shown by the figures.

Besides the return cases of scarlet fever above mentioned, 7 patients convalescent from this disease apparently infected 11 other persons with diphtheria, while 4 patients, notified as suffering from diphtheria, when discharged from the hospital were deemed responsible for the return of 4 cases of scarlet fever. It is possible that the latter cases, although notified as diphtheria, were really mild atypical cases of scarlet fever and that this disease was not recognised.

The next table shows the duration of stay in hospital of these "infecting" cases, and the percentage of patients on the total number discharged at each period who were thought to be infecting cases.

Total "infecting cases 354

DURATION OF STAY IN HOSPITAL OF THESE "INFECTING CASES."

Under 3 weeks	3 to 4 weeks	4 to 5 weeks	5 to 6 weeks	6 to 7 weeks	7 to 8 weeks	8 to 9 weeks	9 to 10 weeks	10 to 11 weeks	11 to 12 weeks	Over 12 weeks	Total
2	3	36	46	162	32	18	9	12	9	25	354

TOTAL SCARLET FEVER PATIENTS DISCHARGED FROM THE CITY HOSPITALS AT THE ABOVE PERIODS.

68	95	736	933	2,434	404	281	158	136	83	207	5,535

PROPORTION (PERCENTAGE) OF INFECTING CASES TO THE NUMBER DISCHARGED FROM THE HOSPITALS AT EACH PERIOD.

2·9	3·1	4·8	4·9	6·6	7·9	6·4	5·6	8·8	10·8	12·0	6·4

These figures are instructive in that they show that prolonged hospital treatment does not with certainty render the patient free from infection, and that with a shorter stay in hospital the patient appears to be less likely to carry infection when he returns to his home.

Discharges, such as occur in a scarlet fever ward, from the nose, ears, etc., of young patients are probably highly infectious, and tend to cause discharges in children in the same ward previously free from this complication.

With the object of diminishing the spread of these complications, care is taken in all the hospitals to keep the children with discharges from coming into contact with clean cases as far as possible. In one hospital all articles in common use in the wards are carefully sterilized frequently each day, and in other of the hospitals septic wards are maintained. Efforts are made to allow the patients to leave hospital as early as possible after the fourth week, provided no complications exist, as investigations in this direction show that at this period the patient is probably non-infectious.

The cases are grouped below according to the number of days which elapsed between the return from hospital or the release from home isolation of the primary case and the onset of illness of the return case :—

After an Interval of	No. of Cases.	After an Interval of	No. of Cases.
1 day	... 2	15 days	...10
2 days	...11	16 „	...19
3 „	...22	17 „	...10
4 „	...30	18 „	...23
5 „	...32	19 „	...15
6 „	...46	20 „	...13
7 „	...16	21 „	... 5
8 „	...24	22 „	...11
9 „	...14	23 „	... 8
10 „	...19	24 „	... 6
11 „	...20	25 „	... 4
12 „	...30	26 „	... 4
13 „	...21	27 „	... 7
14 „	...23	28 „	... 4

Total Cases ... 449

The next table shows the complications present in the infecting cases after return from hospital or release from isolation at home when they were visited by the Assistant Medical Officer :—

	Cases.		Cases.
No abnormal condition	65	Nail abscesses (Onychia)	7
Purulent nasal discharge	119	Enlarged tonsils	118
Watery nasal discharge	63	Tonsils and adenoids	31
Running ears	21	Glands in neck	105
Impetigo, sores, or cracked ears ...	80	Other complications	24

The following are the complications from which the infecting cases suffered in hospital as reported by the Medical Superintendents :—

	Cases.		Cases.
No abnormal condition	122	Sores of body, face, etc.	78
Running nose	112	Abscess (Onychias, etc.)	20
Running ears	38	Tonsillitis	19
Enlarged glands	67	Infectious complaints	23
Nephritis	7	Skin diseases	8
Albuminuria	50	Other complications	28

Special reports on the work of the City Hospitals will be found on pages 6~~4~~1 to 7~~3~~.4

WHOOPING COUGH.

One hundred and sixty-three deaths were registered as due to whooping cough, as compared with 331 in 1912. The mortality in previous years is shown in the accompanying table :—

Mortality from Whooping Cough.

	Deaths in Birmingham.		Death-rate in England and Wales.
	Number.	Rate.	
1901	299	·39	·31
1902	363	·47	·30
1903	127	·16	·29
1904	585	·75	·35
1905	206	·26	·26
1906	350	·44	·24
1907	244	·30	·30
1908	406	·49	·28
1909	188	·23	·20
1910	283	·34	·25
1911	139	·17	·21
1912	331	·39	·23
1913	163	·19	·14

In six of the City wards having a good class population no death was registered from this disease, while in the poorer class areas the number of deaths was very large. The mortality at ages is given below, from which it will be seen that it is greatest under three years of age :—

Under 1 year	71 deaths.
Between 1 and 2 years	45 ,,
,, 2 ,, 3 ,,	20 ,,
,, 3 ,, 4 ,,	12 ,,
,, 4 ,, 5 ,,	6 ,,
Over 5 years	9 ,,

There were 2,638 cases reported by school teachers, and valuable work resulted from these reports, because they enabled the staff of Health Visitors to give advice in dwellings where the disease occurred, and also enabled the Public Health Department to exclude from school children who were infectious.

DIPHTHERIA.

The number of cases of diphtheria reported was 991, with 169 deaths. From the table below it will be seen that while the incidence of the disease was slightly below the average of preceding years, the mortality from it was in excess :—

Diphtheria Cases and Deaths.

	Cases.		Deaths.		Death-rate for England and Wales
	No.	Rate.	No.	Rate.	
1901	789	1·04	119	·16	·27
1902	1,118	1·44	180	·23	·24
1903	1,176	1·52	172	·22	·18
1904	902	1·15	161	·21	·17
1905	972	1·23	132	·17	·16
1906	1,165	1·46	134	·17	·18
1907	1,459	1·81	154	·19	·16
1908	1,229	1·49	162	·20	·16
1909	1,136	1·38	163	·20	·15
1910	1,063	1·28	109	·13	·12
1911	1,134	1·35	111	·13	·13
1912	807	·95	100	·12	·11
1913	991	1·13	169	·19	·12

The highest incidence of diphtheria in England and Wales during 1913 was at Portsmouth, where the rate was 4·00 cases per 1,000 of the population; at Norwich, where it was 3·20 per 1,000; and at Cardiff, where it was 3·02 per 1,000; while the lowest sickness rates were at Dudley, with ·25 case per 1,000 of the population, Oxford, ·35, and Wigan, ·38.

The distribution of cases of the disease stated as cases per 1,000 of the population is given in the appended table. It will be noted that the disease was most prevalent in Acock's Green, Small Heath, King's Norton, and Yardley; while the lowest incidence was recorded in Erdington North, Duddeston and Nechells, St. Mary's, and St. Paul's, the interesting point being that the disease, as far as can be gathered from the notified cases, has no connection with conditions of poverty or overcrowding, but rather is one of a suburban population—at least this is the case in Birmingham during 1913, as it has been in previous years.

Central Wards	St. Paul's	·53	Average ·84
	St. Mary's	·49	
	Duddeston and Nechells	·43	
	St. Bartholomew's	·87	
	St. Martin's and Deritend	·73	
	Market Hall	1·08	
	Ladywood	1·75	
Middle Ring	Lozells	·76	Average 1·13
	Aston	·91	
	Washwood Heath	1·01	
	Saltley	·94	
	Small Heath	2·61	
	Sparkbrook	1·06	
	Balsall Heath	·92	
	Edgbaston	·92	
	Rotton Park	1·33	
	All Saints'	·83	
Outer Ring	Soho	1·00	Average 1·32
	Sandwell	·80	
	Handsworth	1·30	
	Erdington North	·26	
	Erdington South	·59	
	Yardley	2·17	
	Acock's Green	3·13	
	Sparkhill	1·46	
	Moseley and King's Heath	·86	
	Selly Oak	1·52	
	King's Norton	2·28	
	Northfield	·65	
	Harborne	1·13	

During the year 1,990 swabs were examined by the Pathology Department of the University, as compared with 2,791 in 1912. These swabs are examined partly as an aid to diagnosis and partly to obtain evidence that a convalescent case is now free from infection.

Anti-toxin has been for many years supplied free of charge to any medical practitioner in Birmingham for the treatment of Birmingham patients, and during the year the total amount supplied was 399 boxes, each containing 4,000 units. Of these boxes 230 were supplied from the University, and 169 from the police stations, the cost of the anti-toxin being £100.

DIARRHŒA AND ENTERITIS.

The year 1913 showed a considerable incidence of diarrhœal mortality during the third quarter. The weather, while not so favourable as that in 1911, or in many previous years, yet was comparatively favourable for a long period to the prevalence of the disease, with a result that 970 persons, mostly infants, died, as against 346 in 1912. The figures for this disease since 1901 are shown below :—

	Deaths from Diarrhœa and Enteritis.	Death-rate per 1,000	Maximum Air Temperature	Days with 75° or over.*	Maximum Soil Temperature (4ft. deep).*	Amount of Rain.*
1901	1,320	1·74	88·0	17	56·0	5·91
1902	634	·82	81·4	4	53·9	7·51
1903	921	1·19	83·8	4	53·8	9·85
1904	1,422	1·82	81·8	16	55·8	5·75
1905	839	1·06	80·3	7	55·4	7·33
1906	1,439	1·80	90·6	15	56·2	2·97
1907	511	·63	76·8	1	53·2	6·08
1908	873	1·06	82·0	7	54·2	6·94
1909	535	·65	84·4	9	54·3	7·63
1910	541	·65	73·9	0	53·2	8·24
1911	1,390	1·65	93·9	40	57·2	3·27
1912	346	·41	82·2	4	53·9	10·99
1913	970	1·11	79·4	6	54·0	4·51

*In the third quarter of the year.

It will be noted that during the third quarter the number of days with a maximum temperature of over 70 degrees was 6, compared with 40 in 1911. But while this is so, the mean temperature was generally about the average, and the amount of rainfall was low, so that on the whole the summer may be considered to have been favourable to diarrhœal mortality. The excessive incidence of fatal summer diarrhœa commenced during the third week in July, and continued until the end of October, the maximum number of deaths in any week being 77 during the second week in September.

The weather conditions during June and July were so favourable to the development of high diarrhœal mortality, that certain precautions were taken towards the latter part of July in the direction of distributing to all the cottages in the poorer quarters of the City a handbill warning occupants of the danger to children, and of methods of preventing this. In addition posters were put up in the courtyards to a similar effect. The whole of the staff of health visitors were kept on duty during the diarrhœa season, and were instructed to visit from house to house in the poorer areas of the City. In addition to this the Press very kindly drew attention to the subject early in August. The areas most affected are shown in the following table, in which the mortality from diarrhœa and enteritis is expressed as a rate per 1,000 births :—

St. Mary's	81·4	Small Heath	20·7
Duddeston and Nechells	62·4	Erdington North	19·0
St. Paul's	59·4	Balsall Heath	17·0
St. Bartholomew's	57·0	Handsworth	16·7
St. Martin's and Deritend	54·2	Harborne	16·2
Ladywood	49·7	Soho	14·6
Rotton Park	49·2	Yardley	14·3
Aston	44·8	Northfield	11·5
All Saints'	38·8	Acock's Green	10·5
Market Hall	34·7	Erdington South	10·5
Saltley	29·8	King's Norton	9·8
Lozells	25·4	Sandwell	9·3
Washwood Heath	24·8	Selly Oak	6·9
Edgbaston	21·8	Moseley and King's Heath	6·4
Sparkbrook	21·1	Sparkhill	5·0

As in former years, the mortality was greatest among babies under 9 months old. The Registrar-General in his report for the third quarter states the incidence of summer diarrhœa in the great towns. From his table it will be ascertained that Birmingham had a rate of 84·93 deaths among children under two years of age per 1,000 children born, while Walsall had a rate of 112·83, Wolverhampton, 102·07, Birkenhead, 149·60, Liverpool, 88·40, Bootle, 120·88, Manchester, 70·76, Salford, 61·19, Leeds, 82·21, Sheffield, 72·18, Cardiff, 102·36. Several other towns of considerable size had rates below 30 per 1,000 births.

TUBERCULOSIS.

The main features as regards the mortality from tuberculosis are shown in the following table :—

	Pulmonary Tuberculosis.			Other Forms of Tuberculosis.		
	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.
1901 ...	1120	1·47	1·26	395	·52	·54
1902 ...	1071	1·38	1·23	285	·37	·51
1903 ...	992	1·28	1·21	370	·48	·54
1904 ...	1018	1·30	1·24	351	·45	·54
1905 ...	994	1·26	1·14	322	·41	·49
1906 ...	908	1·14	1·16	295	·37	·50
1907 ...	898	1·11	1·15	343	·43	·47
1908 ...	1021	1·24	1·12	287	·35	·47
1909 ...	1008	1·22	1·09	248	·30	·45
1910 ...	898	1·08	1·01	270	·32	·42
1911 ...	958	1·14	1·08	272	·32	·38
1912 ...	1088	1·28	1·04	204	·24	·33
1913 ...	1041	1·19	—	300	·34	—

Voluntary notification was commenced in the year 1905, and compulsory notification was applied later to poor law and hospital cases, but not until 1912 was the notification of pulmonary tuberculosis complete. The number of new cases of pulmonary tuberculosis reported last year was 4,229, as compared with 4,394 in the preceding year. In addition there were 967 cases of other forms of tuberculosis notified.

DISTRIBUTION OF PULMONARY TUBERCULOSIS.

The incidence of pulmonary tuberculosis in the City is indicated in the following table, where it will be seen that as in former years the central area has an incidence more than two-and-a-half times as high as that of the outer area, the highest rates being recorded in St. Bartholomew's and St. Martin's and Deritend, while the lowest rates were in Northfield and Erdington North wards.

SICKNESS RATES FROM PULMONARY TUBERCULOSIS.

		1912		1913	
Central Wards ...	St. Paul's	7·6	...	5·1	Average 7·3.
	St. Mary's	7·6	...	7·1	
	Duddeston and Nechells ...	6·7	...	6·4	
	St. Bartholomew's	9·8	...	10·6	
	St. Martin's and Deritend ...	7·2	...	8·5	
	Market Hall	6·9	...	7·3	
	Ladywood	7·5	...	6·1	

SICKNESS RATES FROM PULMONARY TUBERCULOSIS—*continued.*

		1912	1913	
Middle Ring	Lozells	4·5	3·2	Average 4·7.
	Aston	4·9	4·8	
	Washwood Heath	4·2	3·8	
	Saltley	5·9	5·4	
	Small Heath	6·1	4·9	
	Sparkbrook	4·3	5·0	
	Balsall Heath	5·8	5·8	
	Edgbaston	3·9	3·9	
	Rotton Park	4·7	4·8	
	All Saints'	6·3	5·2	
Outer Ring	Soho	2·6	2·7	Average 2·7.
	Sandwell	2·4	1·7	
	Handsworth	3·5	2·8	
	Erdington North	1·6	1·2	
	Erdington South	3·1	2·4	
	Yardley	3·5	3·7	
	Acock's Green	5·1	4·4	
	Sparkhill	4·8	3·9	
	Moseley and King's Heath	3·3	2·9	
	Selly Oak	3·2	3·0	
	King's Norton	3·2	2·9	
	Northfield	1·8	1·2	
	Harborne	3·6	2·9	

There were 1,225 cases reported during the first quarter, as against 919 during the third quarter. These figures closely correspond to the relative prevalence of the disease in the preceding year. Similarly, 312 deaths were recorded in the first quarter, and 214 in the third quarter. It is, of course, not suggested that this indicates more than the fact that the inclement weather during the first quarter of the year brings to light a larger number of cases while the same type of weather causes more deaths amongst those persons suffering from the disease than the better weather during the third quarter.

AGE INCIDENCE OF PULMONARY TUBERCULOSIS.

The age incidence of pulmonary tuberculosis is set out in the table below :—

	Cases Notified in 1913.	Deaths Registered in 1913.*	Percentage Mortality.*
Under 5 years	71	26	37 %
5 to 10 years	341	11	3 %
10 to 15 ,,	320	16	5 %
15 to 20 ,,	326	43	13 %
20 to 25 ,,	514	96	19 %
25 to 35 ,,	1076	235	22 %
35 to 45 ,,	843	281	33 %
45 to 55 ,,	453	197	43 %
55 to 65 ,,	198	97	49 %
Over 65 ,,	87	39	45%
All ages	4229	1041	25 %

* The deaths are not generally those of persons notified during the same year, the illness in many cases being a long one.

It will be noted that the largest number of new cases were reported amongst persons aged 25—35 and 35—45; also that during these age groups the number of deaths was largest.

SEX INCIDENCE OF PULMONARY TUBERCULOSIS.

Generally the facts shown in the next table show that the incidence of the disease is only slightly higher among males than among females, although the mortality among males is very much higher than that among females. In former years for the old city area it was usual to find that the mortality amongst males was frequently twice as high as that among females. The death-rate amongst all males living in Birmingham during 1913 was 1·53 per 1,000, and among females ·88 per 1,000. In 1904 the rates were respectively 2·06 and 1·07 per 1,000, while in 1905 the rate for males was 2·02 per 1,000, and for females ·93.

SEX INCIDENCE OF PULMONARY TUBERCULOSIS.

	Cases of Pulmonary Tuberculosis.		Deaths from Pulmonary Tuberculosis.	
	Males.	Females.	Males.	Females.
Under 5 years	46	25	15	11
5 to 10 ,,	189	152	3	8
10 to 15 ,,	165	155	4	12
15 to 20 ,,	169	157	23	20
20 to 25 ,,	199	315	57	39
25 to 35 ,,	493	583	133	102
35 to 45 ,,	441	402	173	108
45 to 55 ,,	288	165	143	54
55 to 65 ,,	140	58	60	37
Over 65 ,,	55	32	28	11
All ages	2185	2044	639	402
Rate per 1,000	5·24	4·47	1·53	·88

OTHER FORMS OF TUBERCULOSIS.

On February 1st an order of the Local Government Board came into force, making the notification of all other forms of tuberculosis notifiable in addition to tuberculosis of the lungs.

Under this order 967 cases were notified during 1913. Particulars of these cases are given in some detail in the tables on page 38 and in the appendix.

For the first few months after the order came into operation the number of cases notified was very considerable. No doubt this was due to the large number of chronic illnesses, then notified for the first time. Afterwards there was a marked falling off, the numbers, quarter by quarter, being as follows:—

1st Quarter 8 weeks only)	385
2nd ,, (13 weeks)	250
3rd ,, (13 weeks)	157
4th ,, (14 weeks)	175
	967

In the first quarter of the present year there were 155 cases notified, so that apparently the normal number, after allowing for the accumulation of old cases, is about 600 per annum.

The table on the next page shows the number of cases of the different forms of tuberculosis, divided up according to the age and sex of the patient. The majority of the cases comprised in the heading "Other Organs" were cases of tuberculosis of the glands.

Notified Cases of Tuberculosis, 1913.

	PULMONARY.			MENINGITIS.			ABDOMINAL.			SPINE.			JOINTS.			OTHER ORGANS.			DISSEMINATED.			ALL FORMS.		
	Males	F'males	Total	Males	F'males	Total	Males	F'males	Total	Males	F'males	Total	Males	F'males	Total	Males	F'males	Total	Males	F'males	Total	Males	F'males	Total
Under 1 year	4	4	8	7	3	10	47	35	82	—	—	—	1	—	1	1	2	3	1	2	3	61	46	107
1 and under 2	9	6	15	6	10	16	15	18	33	—	—	—	—	—	—	7	3	10	4	2	6	41	39	80
2 ,, 3	11	3	14	6	2	8	13	4	17	3	—	3	3	2	5	9	7	16	—	2	2	45	20	65
3 ,, 4	7	4	11	4	4	8	11	7	18	2	2	4	2	1	3	11	3	14	—	1	1	37	22	59
4 ,, 5	15	8	23	—	—	—	2	3	5	5	2	7	6	1	7	9	13	22	—	1	1	37	28	65
5 ,, 10	189	152	341	9	4	13	12	5	17	11	12	23	18	23	41	89	57	146	2	3	5	330	256	586
10 ,, 15	165	155	320	1	1	2	6	3	9	12	7	19	10	13	23	48	66	114	1	2	3	243	247	490
15 ,, 20	169	157	326	—	—	—	1	—	1	5	2	7	5	10	15	17	28	45	—	—	—	197	197	394
20 ,, 25	199	315	514	—	—	—	—	1	1	2	3	5	2	6	8	9	19	28	1	1	2	213	345	558
25 ,, 35	493	583	1076	—	1	1	4	4	8	3	7	10	7	6	13	19	23	42	1	—	1	527	624	1151
35 ,, 45	441	402	843	—	1	1	1	2	3	2	—	2	2	2	4	3	11	14	—	1	1	449	419	868
45 ,, 55	288	165	453	—	—	—	—	—	—	1	1	2	2	1	3	7	5	12	—	—	—	298	172	470
55 ,, 65	140	58	198	—	—	—	1	—	1	1	—	1	—	1	1	5	3	8	—	—	—	147	62	209
Over 65 ...	55	32	87	—	—	—	—	—	—	—	1	1	1	1	2	3	1	4	—	—	—	59	35	94
All Ages ...	2185	2044	4229	33	26	59	113	82	195	47	37	84	59	67	126	237	241	478	10	15	25	2684	2512	5196

The next table shows the sickness-rates from non-pulmonary tuberculosis in the different wards :—

SICKNESS-RATES FROM NON-PULMONARY TUBERCULOSIS.

		1913	
Central Wards ...	St. Paul's	1·6	Average 1·7
	St. Mary's	1·7	
	Duddeston and Nechells	1·7	
	St. Bartholomew's	1·2	
	St. Martin's and Deritend	1·1	
	Market Hall	2·5	
	Ladywood	1·8	
Middle Ring ...	Lozells	1·5	Average 1·1
	Aston	0·7	
	Washwood Heath	1·3	
	Saltley	1·2	
	Small Heath	1·3	
	Sparkbrook	1·0	
	Balsall Heath	0·8	
	Edgbaston	1·0	
	Rotton Park	0·7	
	All Saints'	1·4	
Outer Ring ...	Soho	0·7	Average 0·7
	Sandwell	0·8	
	Handsworth	0·7	
	Erdington North	0·9	
	Erdington South	0·6	
	Yardley	1·2	
	Acock's Green	0·7	
	Sparkhill	0·8	
	Moseley and King's Heath	0·5	
	Selly Oak	0·9	
	King's Norton	0·7	
	Northfield	0·1	
	Harborne	0·8	

ADMINISTRATIVE PROCEDURE.

All the notified cases of tuberculosis, except those in institutions and other similar places, are visited by the special staff of tuberculosis visitors, of whom there are ten, and a report of each visit is made to one of the Assistant Medical Officers of Health. Revisits are paid as frequently as practicable

During 1913 the tuberculosis visitors paid 5,130 primary visits, 10,893 periodical revisits and 2,599 revisits for special purposes. At these visits advice is given on many matters connected with the patient's own health and on the means to be taken to prevent any spread of infection.

It was possible during the last half of the year to tabulate some of the facts ascertained at the houses visited, and these are of considerable interest.

Out of 1,828 cases enquired into there were 793 in which another member of the family had suffered from tuberculosis. The actual relation to the present patient is shown in the statement below :—

Father of present patient in	204	instances.
Mother of " "	158	"
Brother of " "	169	"
Sister of " "	145	"
Husband of " "	44	"
Wife of " "	25	"
Child of " "	48	"
Total	793	

From these figures it would seem that in nearly one-half of the cases the infection was derived from an immediate relative.

It is, of course, very desirable that a tubercular patient should not come into very close contact with persons not so affected. Enquiry into this point, however, brought to light the fact that considerably over one-half of the patients, viz., 1,071 out of 1,828, had to share a bed with another member of the household. In all these cases the patients are urged to arrange for a separate bed if this is at all possible. More recently, where isolation is very difficult or impossible, the patient has been admitted to West Heath Sanatorium, which is now being used for cases of this character.

Some interest attaches to the position and size of the house in which the patient lived. The position of the houses was as follows :—

In a court	1,200
In a terrace	428
In a street or road	200
Total	1,828

The size of the houses concerned was as follows :—

3 rooms in	601 instances.
4 ,, ...	242 ,,
5 ,, ...	237 ,,
6 ,, ...	621 ,,
7 and over	127 ,,
Total	1,828

There are in Birmingham about 194,000 houses of which about 40,000 are houses of three rooms. The relative incidence on the three-roomed houses was therefore 15·0 per 1,000 houses in the half-year, as compared with 8·0 per 1,000 of the larger houses.

If the rental of the house is taken as an index of the social position of the patient it is evident that the incidence of tuberculosis is very heavy on the poorer part of the population. The rentals of the houses visited were as follows :—

Under 5/-	565
Between 5/- and 7/-	854
Between 7/- and 10/-	274
Over 10/-	135
Total	1,828

The relative number of cases in houses at different rentals during the half-year was as follows :—

Under 5/-	15·1 per 1,000 houses.
Between 5/- and 7/-	11·2 ,,
Between 7/- and 10/-	7·7 ,,
Over 10/-	3·0 ,,
All houses	9·4 ,,

The number of houses visited which had through ventilation was 1,214, leaving 614 which had no back doors or windows. The total number of inmates living in the houses occupied by the tubercular patients was 8,731, giving an average of 4·8 per house. Of these 924 were reported to be in delicate health, and a considerable number of them were subsequently examined by the tuberculosis officers, with a view to discovering whether they had become infected.

By an arrangement between the Insurance Committee and the Public Health and Housing Committee, all the insured patients who applied for treatment as well as the uninsured were dealt with by your Committee, and a total of 2,076 persons, insured and uninsured, were examined by the tuberculosis officers with the following results :—

Recommended for admission to sanatorium	1,392
Recommended for treatment at dispensary	468
Recommended for domiciliary treatment	179
No treatment recommended at present	37

In addition to the above examinations a large number of re-examinations were made. There were also 16 persons examined at the request of their doctors for the purpose of diagnosis and 232 who were "contacts" of notified cases, and themselves showed signs of failing health.

A summary of the cases admitted to the City Sanatoria is given below :—

	Yardley Road.	West Heath.	Salterley Grange.	Romsley Hill.	Total, 1913.	Total, 1912.
In sanatorium at beginning of year	71	27	42	0	140	106
Admitted	667	212	235	263	1,377	833
Discharged	669	210	232	179	1,290	794
Died	3	1	0	2	6	5
Remaining at end of year	66	28	45	81	220	140

The cases admitted to the Sanatoria numbered 1,377, or 33 per cent. of the number of pulmonary cases notified. In 1912 the number admitted was only 833. Reports on the work of the sanatoria and the tuberculosis centre are given below.

REPORT ON YARDLEY ROAD SANATORIUM.

City Sanatorium,
Yardley Road, Birmingham.

During the calendar year 691 patients were admitted to the Yardley Road Sanatorium; of these 326 were males and 365 were females; 253 of the males and 361 of the females were employed in indoor occupations, while only 73 males and 4 females were employed in outdoor occupations. The schoolchildren included in this classification are considered as indoor workers.

The age incidence of those admitted to the Sanatorium is given in the following table :—

Age.	Males.	Females.
In 1st decade	4	28
,, 2nd ,, ...	59	95
,, 3rd ,, ...	97	118
,, 4th ,, ...	98	97
,, 5th ,, ...	54	24
,, 6th ,, ...	13	3
,, 7th ,, ...	0	0
,, 8th ,, ...	1	0
Total	326	365

Classification of Patients.

Below the patients are classified in two tables according to their sex. These tables give the numbers in the different stages of the disease, they show the numbers and percentages of those with tubercle bacilli in the sputum and of those with no tubercle bacilli and with no sputum. Seven patients out of the total 691 were unclassified, and therefore do not appear on this list.

Men.

Turban's Stadii.	No. of Cases.	Percentage of Total No.	Tubercle Bacilli present.		Tubercle Bacilli absent.		No Sputum present.	
				Percent'ge		Percent'ge		Percent'ge
I.	133	41·17	71	53·308	44	33·082	18	13·533
II.	107	33·12	80	74·766	19	17·757	8	7·476
III.	83	25·69	75	90·361	8	9·388	0	—
Total	323		226		71		26	

WOMEN.

Turban's Stadii.	No. of Cases.	Percentage of Total No.	Tubercle Bacilli present.		Tubercle Bacilli absent.		No Sputum present.	
				Percent'ge		Percent'ge		Percent'ge
I.	215	59·55	73	33·95	71	32·10	71	32·10
II.	79	21·85	43	54·43	19	24·05	17	21·51
III.	67	18·55	45	67·16	15	22·38	7	10·44
Total	361		161		105		95	

WEIGHT.

294 of the total 323 classified male patients showed a gain in weight on leaving the Sanatorium, 13 lost weight, and 16 remained stationary. Of the total 361 classified female patients 323 gained weight during their stay in the Sanatorium, 24 lost weight, and 14 remained stationary.

WORKING CAPACITY.

178 of the 323 classified male patients left the Sanatorium with an unimpaired working capacity, whilst 109 at the termination of their period of treatment, although able to undertake some work, were incapable of following their original occupation at full time, 33 patients were quite unable to follow any occupation when they left, and 3 died in the Sanatorium.

Of the 361 classified females 206 left the Sanatorium in a suitable condition for continuing their occupation at full time, 120 when they left were unable to work full time at their own occupation, and 34 were quite incapable of any work; one died under treatment.

One thousand four hundred sputum examinations were carried out in the laboratory at the Sanatorium during the year; in addition to this examinations of other specimens were made.

(Signed) G. BROOKES DIXON, M.R.C.S.,
Medical Superintendent.

REPORT ON SALTERLEY GRANGE SANATORIUM.

SALTERLEY GRANGE SANATORIUM,
NEAR CHELTENHAM.

During the year ending December 31st, 1913, 231 patients were admitted to Salterley Grange. Of this number 141 were males, and 90 were females. Twenty-three patients out of the 231 were not insured.

196 patients were discharged at the end of their period of treatment as being able to resume their occupations.

17 patients completed their granted period of treatment, but were not fit for their everyday occupations on discharge.

18 patients were discharged for various reasons before completing their granted period of treatment.

219 patients received inoculations of tuberculin twice weekly.

The average duration of length of stay at Salterley Grange for each patient was about 70 days.

(Signed) J. R. McGREGOR,
Medical Superintendent.

REPORT ON ROMSLEY HILL SANATORIUM.

ROMSLEY HILL SANATORIUM,
HALESOWEN, NEAR BIRMINGHAM,

On April 24th, 1913, the first patients were admitted to Romsley Hill Sanatorium (The Sir William Cook Memorial Home for Consumptives).

The buildings were not then complete, but it was felt that use should be made of the part which was ready.

Twenty-five beds were occupied during May, 1913, and in June the number was increased to thirty. At first only male patients were admitted, and at the end of September 60 beds were available.

On October 21st the female wing was ready, and women were admitted. After that date 105 beds were in use, 63 being for men and 42 for women. From the 24th April, 1913, till the 31st December 284 patients had been admitted, of whom 258 were from Birmingham, and these were mostly insured persons, only 6 men and 5 women being non-insured.

The average length of stay was 51 days. There were 3 deaths in the Institution, 2 being of cases of Birmingham patients.

The treatment at Romsley Hill consists of hygiene treatment combined with graduated labour and tuberculin in suitable cases. 70% of the patients had tuberculin.

Various tuberculins were used, as two selections were made: (1) The patient was selected for tuberculin; (2) then the particular tuberculin was selected for the patient. The selection of the patient was made on the lines laid down by Sir R. W. Philip on a modified Turban's Classification of cases of pulmonary tuberculosis.

Four tuberculins have been used in different classes of case:

(1) Beraneck's (T.Bk.);
(2) Koch's (P.T.O.);
(3) Koch's (T.R.);
(4) Bacillary Emulsion (B.E.).

It has been noticed that the same tuberculin does not suit every patient, just as, for instance, the Tincture of Digitalis does not suit some patients, and by giving the Infusion of Digitalis good results may be obtained.

No untoward results occurred as the result of tuberculin administration.

Two effects have been noted: (1) Reduction of temperature; (2) disappearance of sputum or disappearance of tubercle bacilli from the spit.

In a great many cases these two results have been obtained only after tuberculin treatment was commenced.

Bacteriology. The laboratory was not in complete working order at the end of the year.

In December Dr. Savy was appointed Assistant Medical Officer, and he has devoted a large amount of time to bacteriology since.

It is hoped soon to have an efficiently-equipped laboratory where the examination of pathological specimens will be thoroughly made by modern methods, and also where autogenous vaccines will be prepared to treat cases of "mixed infections," which form an appreciable proportion of cases admitted.

Results. The immediate results of treatment at Romsley Hill Sanatorium are quite satisfactory. It is rather early to speak of ultimate results.

The patients are sent on discharge to continue treatment under Dr. G. B. Dixon at the tuberculosis centre. A report is made on each case to Dr. Dixon.

"After-care" plays a most important part in sanatorium treatment, and we try to impress this on the patients by short lectures.

(*Signed*) PETER ALLAN, M.B., CH.B., D.P.H.,
Medical Superintendent.

A report on the tubercular patients treated at West Heath Hospital will be be found on page~~s~~ 71 ~~to 73~~.

After coming out of the Sanatorium certain patients attend at the Tuberculosis Centre at Broad Street, where they receive treatment as required, and where their progress is carefully noted. In certain cases also patients are allowed to attend the Dispensary without having first been to a Sanatorium.

The following is a report by Dr. Dixon on the work at the Centre:—

REPORT ON THE ANTI-TUBERCULOSIS CENTRE.

44A BROAD STREET,
BIRMINGHAM.

There were 35,089 attendances at the Centre during the year; this number includes those who attended both for treatment and for the purpose of examination.

During the year there were 1,655 patients on the register who received treatment; of this number 855 were males and 800 were females; 765 of the male patients were insured persons and 459 of the females. In addition to the 1,655 who received treatment there is usually a number, at any given time representing about 50, who are not undergoing treatment, but who are attending for the purpose of observation.

At the end of the year of the 1,655 patients on the register 450 completed a period of treatment, 653 were still undergoing treatment, and 552 discontinued treatment after varying periods for different reasons. Some left the City, others received treatment elsewhere, others again did not wish to continue treatment.

Sputum. Of the 1,655 patients under treatment 775 were in Stage I. (Turban) of the disease, 535 were in Stage II., and 331 were in Stage III.; 14 were unclassified.

238 of those in Stage I. were found to have tubercle bacilli in the sputum, 288 had sputum in which tubercle bacilli were not found, and 249 had no sputum.

271 of the 535 in Stage II. had tubercle bacilli in their sputum, in 169 tubercle bacilli could not be demonstrated, whilst 95 had no sputum.

231 of the 331 in Stage III. were found to have tubercle bacilli in their sputum; in 72 instances these bacilli could not be discovered, and 28 only had no sputum.

Working Capacity. The following table shows the working capacity before and after treatment of all patients who could be classified and who had received any treatment at the Centre during the year.

In reading these figures it is well to remember that some of the patients may have discontinued their work, or worked part time, or sought lighter occupations, when they were notified as being tuberculous, whether their working capacity was really impaired or not, and, after a varying period of treatment, feeling better, they would naturally regain confidence and return to their original occupation. This applies to those without dependents. On the other hand, unfortunately, there must have been a number with dependents who, although physically unfit to follow their occupation, struggled to hold their place; these, before treatment, may have been classed as of "unimpaired" working capacity.

STAGE I.

	Before Treatment.		After Treatment.	
		%		%
Unimpaired	224	28·9	400	51·62
Impaired	528	68·5	370	47·74
Incapacitated	23	2·96	5	·64
Total	775		775	

STAGE II.

	Before Treatment.		After Treatment.	
		%		%
Unimpaired	82	15·32	200	37·38
Impaired	423	79·06	325	60·74
Incapacitated	30	5·60	10	1·86
Total	535		535	

STAGE III.

	Before Treatment.		After Treatment.	
		%		%
Unimpaired	24	17·25	90	27·19
Impaired	236	71·20	190	57·4
Incapacitated	71	21·45	51	15·4
Total	331		331	

In the following table are given the results of treatment in 378 of the 450 patients whom it is possible to classify.

Tubercle Bacilli.						Weight (after treatment).					
Not present.		Present before treatment.		Present after treatment.		Increased.		Diminished.		Stationary.	
	%		%		%		%		%		%
203	53·7	175	46·29	57	15·07	325	85·97	45	11·9	8	2·11

Working Capacity (after treatment).						Condition of Disease.					
						Before treatment.		After treatment.			
Improved.		Stationary.		Worse.		Active.	Quiescent.	Active.		Quiescent.	
	%		%		%				%		%
194	51·32	176	46·56	8	2·11	378	—	191	50·53	187	49·47

(Signed) G. BROOKES DIXON, M.R.C.S.,
Chief Tuberculosis Officer.

SPITTING ON THE FOOTPATHS.

An important bye-law came into operation on September 12th, 1911, prohibiting under a penalty persons from spitting on the footway of any public street. This bye-law was to cease to be in operation on December 31st, 1913, unless it was confirmed and continued by consent of the Home Office. Application is now being made for its continuance, but there will have been an interval of nearly a year during which no such bye-law was in existence. Partly as the result of the bye-law, and partly as the result of educational work in other directions, there has been a diminution in the amount of spitting in the public streets. As soon as the bye-law has been made a permanent one, it would be advisable to take more active steps to enforce it than in the past.

TUBERCULOSIS AND THE MILK SUPPLY.

Much evidence has been obtained within recent years as to the danger to children by the consumption of milk containing the living germs of tuberculosis. Ever since the latter part of 1906 work has been in operation in Birmingham with a view to limiting the amount of milk infected with tubercular infection coming into the City. The total number of samples taken either from churns or from individual cows each year was as follows:—

1907	...	211 samples.	1911	...	124 samples.
1908	...	102 „	1912	...	284 „
1909	...	218 „	1913	...	171 „
1910	...	343 „			

The next table shows the number of samples of mixed milk, taken from churns in course of delivery in the city, which showed living germs of tuberculosis:—

SAMPLES OF MIXED MILK.

	Total Samples.	No. Tubercular.		Total Samples.	No. Tubercular.
1907 ...	141 ...	9	1911 ...	71 ...	7
1908 ...	53 ...	6	1912 ...	138 ...	27
1909 ...	106 ...	8	1913 ...	80 ...	6
1910 ...	228 ...	17			

From the above table it will be seen that 10 per cent. of the mixed milks examined contained living tubercle germs.

Mr. John Malcolm, F.R.C.V.S., Veterinary Superintendent, has submitted the following report on the work done during the year:—

"VETERINARY DEPARTMENT,
"Holliday Street Wharf, Birmingham.

DAIRY INSPECTION.

"I have pleasure in submitting herewith report on the work done last year in connection with the inspection of cows and cowsheds in the City and the efforts to minimise the tubercle infection both in the internal and external milk supply of the City.

INSPECTION OF COWS AND COWSHEDS IN THE CITY.

"During the year 1913 the inspection of cows and cowsheds has been systematically carried out by the Veterinary Staff. The following table shows the number of cowkeepers, farms, sheds, and cows at present in the City area:—

Cowkeepers.	Farms.	Sheds.	Cows.
168 ...	188 ...	350 ...	2,150

"During the year 16 cowkeepers have discontinued keeping cows, and 12 cowkeepers have applied for registration to keep cows for the sale of milk in the City.

"There have been 3,250 visits of inspection paid to cowsheds in the City area. At each visit the Veterinary Inspector examines the cowsheds as to sanitation, cleanliness and structural fitness, and whenever sheds were defective in any of these respects, the occupier was notified, and instructed to remedy them. While the majority readily complied, a number required strong persuasion, and one or two had to be threatened with legal proceedings before the necessary alterations were effected.

"At each visit the Inspector also carefully examines the cows individually as regards their cleanliness and state of health, and pays very particular attention to the condition of their udders.

"There were 23 cases of cows found affected with mastitis or inflammation of the udder. The milk from these was prohibited from sale, either temporarily or permanently, according to the case.

"The condition of the cowsheds, and the cleanliness and health of the cows inspected during the year were on the whole satisfactory.

TUBERCULOSIS AND THE MILK SUPPLY.

"The effort to reduce the amount of tubercle-infected milk sold in the City has been continued on the following lines, viz. :—

(*a*) The detection of cows with tuberculous udders in City dairies.

(*b*) The detection of tubercle-infected milk sent in from outside the City, and the removal from the dairies of the infecting cows.

(*c*) The eradication of tuberculosis from dairy herds supplying milk to the City.

"Four cows have been found with tuberculosis of the udder in City dairies, and these were immediately removed and slaughtered, and compensation paid under the Tuberculosis Order.

"Fifty-nine samples of mixed milk from outside dairies have been taken from churns at the City railway stations, and 21 samples of mixed milk taken from dairies in the City; of the samples from the outside farms 6 were found to contain living tubercle bacilli, and 53 free.

"The farms from which the infected samples came were subsequently visited, the cows examined, and individual samples and control mixed samples taken at each farm. As a result 7 cows were detected as giving tubercle-infected milk, and all of these cows were subsequently slaughtered.

"During the year 27 herds were dealt with, and of these 21 herds, numbering 666 cows, were free at the end of the year.

"Three herds, numbering 85 cows, were being freed; one herd was discontinued owing to the inadequacy of the buildings for effectually isolating the affected from the free. Two herds which were tested for the first time were not proceeded with further owing to the high percentage of reacters (72% in one case and 58% in the other).

"The following tabulated list shows the particulars of the herds dealt with :—

Herd.	Approximate No. of Cows in Herd.	Herds being dealt with during 1913.	Herds Free.	Herds being Freed.	Breeding Herds.	Non-breeding Herds.	Mixed Breeding and Non-breeding Herds.	Herds discontinued.	City Dairy.	Outside Dairy.
No. 1	40	1	1	—	—	—	1	—	1	—
,, 2	80	1	1	—	—	—	1	—	—	1
,, 3	38	1	1	—	—	—	1	—	1	—
,, 4	36	1	1	—	—	1	—	—	1	—
,, 5	10	1	1	—	—	—	1	—	—	1
,, 6	20	1	1	—	—	1	—	—	1	—
,, 7	35	1	1	—	—	—	1	—	1	—
,, 8	90	1	1	—	—	—	1	—	—	1
,, 9	20	1	1	—	1	—	—	—	—	1
,, 10	40	1	1	—	1	—	—	—	—	1
,, 11	75	1	1	—	—	—	1	—	1	—
,, 12	15	1	1	—	—	—	1	—	1	—
,, 13	42	1	—	1	—	—	1	—	—	1
,, 14	10	1	1	—	—	—	1	—	—	1
,, 15	26	1	1	—	1	—	—	—	—	1
,, 16	20	1	1	—	1	—	—	—	—	1
,, 17	8	1	1	—	—	—	1	—	—	1
,, 18	25	1	1	—	1	—	—	—	—	1
,, 19	8	1	1	—	—	—	—	—	—	1
,, 20	23	1	—	—	—	—	—	1	—	1
,, 21	25	1	—	1	1	—	—	—	—	1
,, 22	12	1	1	—	1	—	—	—	—	1
,, 23	52	1	1	—	1	—	—	—	—	1
,, 24	18	1	—	1	1	—	—	—	—	1
,, 25	78	1	—	—	1	—	—	1	—	1
,, 26	8	1	1	—	1	—	—	—	1	—
,, 27	58	1	—	—	—	—	1	1	—	1

COWS TESTED.

" The testing of the above herds has been carried out half-yearly. The results of the testing show that the breeding herds and those into which only young heifers are introduced are more free from tuberculosis at the first test, and, further, they can be maintained in a tubercle-free state much more easily and economically than those herds which are kept up by the purchasing of mature milking cows.

" From the tabulated list below it will be seen that 1,708 cows were tested during the year, of which 1,342 passed and 366 failed to pass the test.

No.	Tested.	Passed.	Failed.
1	119	72	47
2	210	182	28
3	103	98	5
4	37	24	13
5	18	14	4
6	6	4	2
7	73	71	2
8	177	169	8
9	46	40	6
10	170	149	21
11	87	71	16
12	28	23	5
13	62	53	9
14	19	15	4
15	73	54	19
16	44	36	8
17	13	5	8
18	57	49	8
19	17	12	5
20	40	27	13
21	67	38	29
22	20	14	6
23	58	52	6
24	27	18	9
25	76	32	44
26	8	8	—
27	51	11	40
28	2	1	1
	1,708	1,342	366

" The cows which failed were in most cases cows which were purchased subject to passing the test, and having failed were consequently returned.

" The newly purchased and other cows tested for the first time last year number 610. Of these 198 reacted =32·4%.

COST INCURRED BY TESTING HERDS.

" The testing of herds was carried out partly by the Corporation Veterinary Officers and partly by the Dairyman's own Veterinary Surgeon acting on behalf of the Corporation. The herds dealt with are visited periodically to see that the reacters are isolated from the free, that the cows in the free herds have been properly looked after, and that the hygienic regulations are complied with.

" The cost of the work during the year was £167 0s. 0d., of which £32 0s. 0d. was for tuberculin, and £135 0s. 0d. for veterinary fees and expenses. In 1912 the extra cost was £171 5s. 0d.

" (Signed) JOHN MALCOLM,

"*Chief Veterinary Officer.*"

SYPHILIS.

The number of deaths certified as due to this disease was 45, as compared with 46 in the preceding year. During the year under review a Royal Commission was appointed to enquire into the prevalence of venereal diseases in the United Kingdom, their effects upon the health of the community, and the means by which those effects can be alleviated or prevented. Inquiry was made by the Commission as to whether evidence was available from Birmingham, but unfortunately no statistics of value could be arrived at. Opinion, however, was expressed by the most competent authorities in the City that the total volume of syphilis was less than in other large towns on the sea coast, and that the type of the disease prevalent in Birmingham was not by any means the most virulent. It is hoped that progress will be made in the near future in methods of diagnosis, so that cases can be recognised definitely, which could not be done by an ordinary physical examination, and that in this way treatment can be made effective.

CANCER.

The figures submitted for the area of Greater Birmingham since 1901 indicate that the mortality rate has suffered a distinct increase.

MORTALITY FROM CANCER.

	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.
1901 ...	552	·73	·84
1902 ...	530	·68	·85
1903 ...	592	·76	·87
1904 ...	578	·74	·88
1905 ...	643	·81	·89
1906 ...	664	·83	·92
1907 ...	645	·80	·91
1908 ...	702	·85	·93
1909 ...	678	·82	·96
1910 ...	737	·89	·97
1911 ...	748	·89	·99
1912 ...	791	·93	1·02
1913 ...	893	1·02	—

Of the 893 deaths 616 were ascribed to carcinoma, 54 to sarcoma, 34 to epithelioma, 10 to scirrhus, 3 to rodent ulcer, and 176 to cancer not defined.

Practically the whole of the cancer mortality occurs at ages over 25 years, only 9 deaths being recorded at earlier ages. The death-rates at different ages amongst males and females were as follows:—

	Males.		Females.
Under 25 years	·01	...	·03
25 and under 35 years	·13	...	·15
35 ,, 45 ,, ...	·69	...	1·00
45 ,, 55 ,, ...	2·40	...	2·36
55 ,, 65 ,, ...	4·91	...	5·05
65 ,, 75 ,, ...	8·97	...	8·33
75 and upwards	8·78	...	9·71

The parts of the body affected by cancer were recorded as follows:—

Deaths from Cancer in 1913.

Ages.	Mouth.			Stomach, Liver, &c.			Peritoneum, Intestine, etc.			Female Organs of Reproduction.			Breast.			Skin.			Other Organs.			Total.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Under 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1 –	—	1	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
5 –	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10 –	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1
15 –	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1
20 –	—	—	—	—	—	—	—	1	1	—	2	2	—	—	—	—	—	—	2	—	2	2	3	5
25 –	2	—	2	2	3	5	2	1	3	—	1	1	—	3	3	—	—	—	3	4	7	9	12	21
35 –	5	—	5	15	6	21	6	5	11	—	21	21	—	25	25	2	—	2	12	5	17	40	62	102
45 –	22	1	23	30	19	49	14	19	33	—	23	23	1	24	25	1	—	1	25	13	38	93	99	192
55 –	13	2	15	48	39	87	26	24	50	—	27	27	—	29	29	—	1	1	28	12	40	115	134	249
65 –	13	1	14	39	44	83	26	28	54	—	20	20	—	19	19	1	1	2	26	17	43	105	130	235
75 –	2	—	2	9	18	27	5	10	15	—	2	2	—	11	11	2	2	4	10	5	15	28	48	76
85 –	1	—	1	—	2	2	1	1	2	—	—	—	—	2	2	—	1	1	—	1	1	2	7	9
All Ages	58	5	63	143	132	275	80	89	169	—	96	96	1	113	114	6	5	11	106	59	165	394	499	893

The death-rate from cancer in the various wards was as follows during 1912 and 1913 :—

DEATH-RATES FROM CANCER.

		1912	1913	
Central Wards ...	St. Paul's	·97	·95	1913 Average 1·05
	St. Mary's	1·09	·94	
	Duddeston and Nechells	·66	1·20	
	St. Bartholomew's	1·00	1·09	
	St. Martin's and Deritend	1·09	1·21	
	Market Hall	1·38	·90	
	Ladywood	1·24	1·09	
Middle Ring ...	Lozells	·94	1·13	1913 Average 1·04
	Aston	·71	·96	
	Washwood Heath	·57	·64	
	Saltley	·67	1·24	
	Small Heath	·80	1·21	
	Sparkbrook	·72	1·01	
	Balsall Heath	1·20	1·22	
	Edgbaston	1·29	1·12	
	Rotton Park	·87	1·11	
	All Saints'	·91	·81	
Outer Ring ...	Soho	1·00	1·44	1913 Average ·945
	Sandwell	·72	·64	
	Handsworth	·89	1·08	
	Erdington North	·80	·84	
	Erdington South	·80	1·12	
	Yardley	·71	1·05	
	Acock's Green	·99	·93	
	Sparkhill	·94	1·32	
	Moseley and King's Heath	1·24	1·10	
	Selly Oak	·65	·76	
	King's Norton	·82	·90	
	Northfield	1·23	·26	
	Harborne	1·55	·88	

ACUTE ANTERIOR POLIOMYELITIS.

This disease, with cerebro-spinal meningitis, was made compulsorily notifiable throughout England and Wales in September, 1912, but compulsory notification was already in force in Birmingham since December, 1911.

18 cases of acute anterior poliomyelitis were notified during the year, and as usually happens in this disease, the majority of the cases occurred during the summer months, though no cases were notified during July.

The seasonal incidence will be seen from the subjoined statement :—

January	1 case	May	1 case	September	2 cases
February	0 ,,	June	3 ,,	October	2 ,,
March	0 ,,	July	0 ,,	November	1 ,,
April	1 ,,	August	7 ,,	December	0 ,,

Death occurred in five of these cases, giving a percentage mortality of 27·7.

No less than 14 of the 18 patients notified were under the age of 5 years, while all of those suffering from paralysis, as a result of this disease, except one (an adult) were also under 5 years of age.

Re-visits were paid to all of the patients notified some months after the notification was received in order that information might be obtained relative to the ultimate recovery of each case.

Statistical evidence elsewhere shows that in children suffering from paralysis as a result of this disease recovery more or less complete usually does take place, although it may require as long as from three to four years before the function of the part is restored.

In the Birmingham cases paralysis was found to persist in seven cases at the time of the second visit (this is equal to 53·8 per cent. of those surviving the attack), and although in the majority of the cases improvement was reported, in all it was extremely slow.

Careful enquiry into the circumstances surrounding these patients failed to show that contact had occurred between any of those suffering from the disease either directly or through the medium of a third person, and with two exceptions the cases were widely scattered through the City.

Apparently contact direct or through the medium of a third person plays a very small part in the spread of this disease.

In 15 of the 18 houses in which this disease occurred there were 30 children under the age of 10 years, and therefore all susceptible to the disease. Although practically no isolation of the patient was attempted, yet in not one instance was there a second case in the same house.

Up to the present considerable doubt prevails as to the method of spread of this disease, but in the opinion of a number of health authorities there is some evidence for supposing that it is not unconnected with bites from the ordinary stable-fly—Stomonys Calcitrans.

An investigation was therefore made in Birmingham as to the proximity of stables to the affected houses. It was found that in 14 of the 18 cases of this disease notified stables were in active use within 150 yards of all the houses, and within a very much shorter distance in the majority of the cases.

No figures are available relative to the frequency of the stable-fly in or about the infected houses.

Careful disinfection of the rooms and families infected was carried out in all cases usually within a period of about six weeks after notification of the patient.

Details of the cases notified are given in the table on the next page.

CEREBRO-SPINAL FEVER.

Six cases of this disease were notified during the year, the youngest patient being 3 months old and the eldest being 29 years of age. Only one death occurred—in a patient 11 months old. Only one of these patients developed paralysis—a girl of 15 years developing left facial paralysis.

Complete disinfection was carried out in all cases after recovery of the patient from the acute attack.

Acute Anterior Poliomyelitis, 1913.

Initials.	Date Notified.	Age.	Sex.	Circumstances in which case occurred.	Proximity of Stables, &c.	Measures Taken.	Result of Illness.	Removed to Hospital.	Steps taken to verify diagnosis.
L. R. ...	4/10/13	2½	F.	No contact; no cases near	No stables near	Complete disn.	Complete recovery; no paralysis	No	History of case enquired into.
L. S. ...	24/6/13	25	F.	Ditto	1 stable 150 yards	Ditto	Death	Yes	Post mortem in hospital
W. L....	29/9/13	1	M.	No contact; one case near (see next case). Patient came from Derbyshire 14 days before illness	Refuse tip close to	Ditto	Right deltoid paralysis	No	Enquiries made and case examined.
H. P....	29/9/13	19	M.	No contact; one case near (see above)	Refuse tip close to	Ditto	Whole of right arm except slight finger movement; flaccid paralysis	No	Ditto
D. P....	20/8/13	6	F.	Not known; gone no address	No stables near	House disd.	No particulars obtainable	No	
N. R....	13/8/13	3	M.	No contact; one case near (see below)	Stables 100 yards	Complete disinfection	Died	No	History of case enquired into
I. T. ...	24/8/13	3	F.	No contact; one case near	Stable and manure receptacle 10 and 40 yards respectively	Ditto	Right lower limb paresis, extensor leg and flexor and extensor foot	No	Case examined and history enquired into
W. E. G.	25/6/13	2	M.	Ditto	No stables near	Ditto	Complete recovery; no paralysis	No	Ditto
H. G. T.	June/13	1	M.	Ditto	1 stable quite near	Ditto	Ditto	No	Ditto
W. H. M.	29/10/13	15	M.	Ditto	2 stables quite near	None	Died		
S. H. ...	7/8/13	1¼	M.	Ditto	Stable 40 yds.; goats 30 yds.	Complete disn.	Complete recovery, no paralysis	No	Enquiries made and case examined
J. D. ...	Jan./13	4m.	M.	One case near (see next case). No known contact	Stable 110 yds.	Ditto	Ditto	No	Ditto
G. C. ...	30/8/13	4	M.	One case near (see previous case)	3 stables near	Ditto	Right plantar flexor paresis	No	Ditto
N. A....	5/11/13	2	F.	One case near (see next case). No known contact	Stable quite close	Ditto	Died	No.	Enquiries made
E. L. ...	31/8/13	¾	M.	One case near (see previous case)	Stable close (now void)	Ditto	Died	Yes	
A. R. H.	5/8/13	3¾	M.	No contact; no cases near	Stables very near	Ditto	Ant. tibial paralysis	No	Enquiries made and case examined
R. C. ...	21/5/13	3	F.	No contact; no cases near	Stables 110 yards	Ditto	General weakness of lower limbs only	No	Ditto
*I. M. ...	5/6/13	1	F.	Ditto	Stable 25 yds.	Ditto	Died	Yes	Enquiries made
N. P. ...	28/4/13	3	F.	Ditto	No stable near	Ditto	Right lower leg muscles wasted, calf muscles especially	No	Enquiries made and case examined

* Diagnosis revised.

BRONCHITIS AND PNEUMONIA.

These two diseases were the certified causes of 2,032 deaths. The mortality from bronchitis and pneumonia in Birmingham and in England and Wales is shown in the following figures:—

Death-Rates from Bronchitis and Pneumonia.

	Bronchitis.				Pneumonia.			
	Birmingham.		England and Wales.		Birmingham.		England and Wales.	
1901 ...	1·80	Average 1·62	1·37	Average 1·24	1·55	Average 1·44	1·15	Average 1·27
1902 ...	1·64		1·32		1·46		1·41	
1903 ...	1·46		1·11		1·32		1·22	
1904 ...	1·76		1·25		1·49		1·28	
1905 ...	1·43		1·14		1·37		1·30	
1906 ...	1·38	Average 1·41	1·04	Average 1·09	1·32	Average 1·30	1·22	Average 1·24
1907 ...	1·49		1·22		1·47		1·35	
1908 ...	1·47		1·10		1·22		1·19	
1909 ...	1·47		1·15		1·36		1·30	
1910 ...	1·24		0·96		1·15		1·11	
1911 ...	1·25		1·00		1·16		1·04	
1912 ...	1·26		1·08		1·20		1·02	
1913 ...	1·20		—		1·13		—	

It will be noted that there is a more or less continuous decline in deaths from these two diseases. This may be regarded as of great importance, for two reasons: (1) that both diseases are declining; (2) that it was at one time feared that mortality from pulmonary tuberculosis was registered under the heading of bronchitis or pneumonia, and that the apparent decline in phthisis mortality was more or less a fallacious one. The above figures, however, indicate that the mortality rates from tuberculosis, bronchitis, and pneumonia are all declining at approximately a similar rate.

Bronchitis and pneumonia are diseases which occur in the poorer class areas of the City, very much in the same way as pulmonary tuberculosis. It is probable that the same influences are at work in these areas in producing the high mortality from these diseases as from pulmonary tuberculosis, and that the main reason for the very much higher rate in the poorer areas is the lower vitality of the dwellers therein.

The mortality rate in each ward in the City from bronchitis and pneumonia, and from the two diseases together, are shown in the following table:—

Death-Rates from Bronchitis and Pneumonia, 1913.

		Bronchitis.	Pneumonia.	Total.	
Central Wards	St. Paul's	1·45	1·51	2·96	Average 3·83
	St. Mary's	2·56	2·13	4·69	
	Duddeston and Nechells ...	2·15	1·56	3·71	
	St. Bartholomew's	2·64	2·27	4·91	
	St. Martin's and Deritend ...	2·77	1·31	4·08	
	Market Hall	1·37	2·27	3·64	
	Ladywood	1·09	1·75	2·84	
Middle Ring	Lozells...	1·34	·81	2·15	Average 2·14
	Aston	1·48	1·15	2·63	
	Washwood Heath	1·16	1·25	2·41	
	Saltley...	1·02	·83	1·85	
	Small Heath	·67	·94	1·61	
	Sparkbrook	1·01	1·11	2·12	
	Balsall Heath	1·14	·92	2·06	
	Edgbaston	·89	·86	1·75	
	Rotton Park	1·31	1·23	2·54	
	All Saints'	1·05	1·28	2·33	

Death-Rates from Bronchitis and Pneumonia, 1913—*continued.*

		Bronchitis.	Pneumonia.	Total.	
Outer Ring	Soho	1·22	·92	2·14	Average 1·19
	Sandwell	·48	·59	1·07	
	Handsworth	·56	·37	·93	
	Erdington North	·65	·39	1·04	
	Erdington South	·24	·53	·77	
	Yardley	·81	·31	1·12	
	Acock's Green	·46	1·66	2·12	
	Sparkhill	·18	·36	·54	
	Moseley and King's Heath ...	·39	·94	1·33	
	Selly Oak	·68	·61	1·29	
	King's Norton	·38	·66	1·04	
	Northfield	·52	·52	1·04	
	Harborne	·50	·57	1·07	

The ages at which deaths from bronchitis and pneumonia took place are shown in Table II.

PUERPERAL FEVER.

There is a real difficulty in defining exactly the cases which should be reported as suffering from this disease. It is probable that if all cases of septic infection during the puerperium, however slight, were notified that many hundreds would be reported. The want of precise definition of the cases to be reported has resulted in only the serious cases being notified in past years.

The opening of the new ward at the Women's Hospital during 1913 enabled many women to get the very necessary medical and nursing skill, which was not available in their homes, and removed from the local doctors cases which not only were dangerous to their other patients, but in many instances were quite mistakenly damaging their reputations.

It was anticipated, therefore, that a larger number of cases would be reported in 1913 than previously, and this has occurred.

The cases were as follows:—

	Notified Cases.	Deaths.	Per 1,000 Births.	
			Cases.	Deaths.
1903	47	28	1·96	1·17
1904	50	34	2·06	1·40
1905	53	30	2·31	1·31
1906	44	26	1·87	1·11
1907	64	35	2·75	1·51
1908	32	12	1·33	·50
1909	39	23	1·73	1·02
1910	42	33	1·88	1·48
1911	42	36	1·91	1·64
1912	78	27	3·52	1·22
Mean of 10 years	49	28	2·13	1·24
1913	112	44	4·70	1·85

The ages of the women who suffered and the number in which the confinement was a first or second, as far as this information was obtained, may be seen in the next statement:—

	I. para.	II. para.	III. para.	More than III. para.
Under 20	2	1	—	—
Between 20 and 25	13	7	3	2
,, 25 and 30	10	4	3	5
,, 30 and 35	9	3	3	15
,, 35 and 40	2	2	1	16
,, 40 and 45	1	0	2	4

The 112 cases were attended as follows:—

66 were attended by a certified midwife alone.
10 were attended by a certified midwife and doctor.
1 was attended by a nurse or uncertified midwife alone.
4 were attended by a nurse or uncertified midwife and doctor.
31 were attended by a doctor alone.

Multiple cases occurred in the practice of the same midwife as follows:—

Two midwives had 3 cases each.
Eight midwives had 2 cases each.

Sixty cases were admitted to the Women's Hospital under an agreement by which the Public Health and Housing Department pay for the use of 14 beds at £72 per annum each. Of these cases 20 died, the mortality being equal to 33 per cent. Among the 19 cases notified as puerperal fever and treated at home there were 4 deaths, equal to 21 per cent. The cases removed to hospital are of course the most severe, as is clearly shown by the great difference in the mortality.

MIDWIVES ACT.

There were 248 midwives signified their intention to practise in Birmingham last year, but during the year 2 of these went abroad, 1 died, 3 were here only temporarily 2 gave up practice, and 7 were struck off the Midwives' Roll, leaving 231 at the end of the year, against 233 at the end of 1912.

The midwives attended 11,650 births, *i.e.*, about 50 per cent. of the total number.

The number of cases in which the midwives found it necessary to call in a medical man was 1,158. The reasons given for this were as follows:—

Delayed or difficult labour	235
Ophthalmia	198
Debility or illness of child	91
Lacerated perineum	83
Hæmorrhage	70
Retained or adherent placenta	69
Abnormal presentation	68
High temperature	54
Premature birth	35
Breech birth	26
Unsatisfactory progress	23
Deformed child	21
Collapse	19
Pemphigus	17
Abortion	13
Convulsions	13
Abdominal pain	12
Other causes	111

There were 31 cases in which the infant died before the arrival of a medical man. Four reports were received from midwives that they had laid out a dead body.

The following midwives were dealt with by your Committee for breaches of the Act or rules:—

April 25th.—Midwife No. 15636. Charged with neglect of the rules in case of ophthalmia. The Committee decided to report this midwife to the Central Midwives Board, and later her certificate was cancelled.

June 13th.—Midwife No. 1015. Charged with neglect of the rules in case of puerperal fever. Reported to Central Midwives Board and certificate cancelled.

June 13th. Midwife No. 4717. Charged with neglect in case of puerperal fever. The Committee decided to report facts to Central Midwives Board. This midwife appeared before the Central Midwives Board in London on July 23rd. Sentence was deferred for three months. Your Committee then reported that she was carrying out her work in a more satisfactory manner, and the Board decided to caution her as to her future conduct.

July 11th.—Midwife No. 14605. Charged with neglect in case of puerperal fever. The Committee reported the facts to Central Midwives Board and her certificate was cancelled.

July 11th.—Midwife No. 17434. Charged with extreme negligence, that after attending a case of puerperal fever she went to a fresh confinement without undergoing adequate disinfection, and not notifying same. Your Committee decided to caution this midwife.

September 26th.—Midwife No. 461. Neglect of the rules in serious outbreak of pemphigus. Your Committee reported this midwife to the Central Midwives Board and her certificate was cancelled.

September 26th.—Midwife No. 19143. Charged with extreme negligence of the rules in case of obstructed labour. Reported to Central Midwives Board and certificate cancelled.

October 24th.—Midwife No. 37145. Charged with neglect of the rules. Your Committee decided to caution this midwife and warn her as to her future conduct.

October 24th.—Midwife No. 3848. Charged with extreme negligence and neglect of the rules. Reported case to Central Midwives Board and certificate cancelled.

October 24th.—Midwife No. 950. Appeared before your Committee for the second time. Charged with neglect of the rules. Your Committee decided to again report this midwife to the Central Midwives Board, and on this occasion her certificate was cancelled.

November 28th.—Midwife No. 24231. Charged with neglect in two cases of puerperal fever. Reported to Central Midwives Board and certificate cancelled.

The following midwives were cautioned in regard to less serious breaches of the Rules :—

July 30th ...	... Midwife No.	3412	... Neglect in case of Ophthalmia.
July 30th ...	... ,,	4555	... ,, ,, ,,
July 30th ...	... ,,	6717	... ,, ,, ,,
August 1st	... ,,	2133	... Failure to take and record temperature every day.
August 1st	... ,,	5727	... ,, ,, ,, ,,
September 18th	... ,,	18889	... Neglect of rules.
October 24th	... ,,	15647	... ,, ,,
November 20th	... ,,	10226	... Neglect in case of Ophthalmia.
November 25th	... ,,	4555	... Neglect of rules.
December 1st	... ,,	2222	... Neglect in case of Ophthalmia.

Proceedings on October 31st were taken against Mrs. Annie Payne, unregistered midwife, for practising otherwise than under the direction of a qualified practitioner. She was fined 20s. and costs, or in default a month's imprisonment.

Thirty-eight midwives were suspended from practice for a time, 34 on account of puerperal fever, 2 on account of infectious disease at their homes, and 2 on account of pemphigus.

There were 322 stillbirths reported by midwives. These cases were all visited, and the results of the enquiries and examinations were as follows :—

CONDITION OF CHILD AND PRESENTATION.	Total Still-births.	PERIOD OF GESTATION.				
		Full Time.	8 months.	7 months.	6 months.	Under 6 months.
Macerated	138	62	25	42	8	1
Not macerated	184	99	26	47	8	4
Vertex	227	121	37	54	13	2
Breech	45	23	5	15	2	0
Footling	25	10	7	5	2	1
Transverse	1	0	1	0	0	0
No information	24	6	2	12	2	2

OPHTHALMIA NEONATORUM.

This disease was made compulsorily notifiable in Birmingham on the 11th May, 1911, and after this date the responsibility of notification rested with the doctor, or parent, or person in charge of the patient.

Under the rules of the Central Midwives Board midwives must notify the local authority of all cases of inflammation of the eyes in newly-born children whom they are attending.

Two hundred and twenty-two cases occurred during the year, and detailed particulars were obtained with regard to 217 of them.

Of these 131 were notified by doctors at the various hospitals, 62 by private practitioners, and 24 by midwives in conjunction with doctors.

All of the above cases were visited by the lady health visitors, and if no treatment was being carried out, arrangements were made to have the patient attended to either by the doctor or at one of the institutions in the City.

The following list shows where the patients were treated :—

	No. of Cases.
Eye Hospital ...	153
Maternity Hospital	9
General Hospital	1
General Infirmary	2
Private Practitioners ...	52
Total	217

The results of treatment are shown in the table below :—

Result.	No. of Cases.
Complete recovery	171
Died	14
Gone away, no trace ...	4
Complete blindness	3
Blind in one eye	1
Large corneal opacities	5
Small nebulæ ...	3
Weak eyes	2
No result recorded	14
Total	217

It is of interest to note that in 19 of the above cases the cornea at the time of the first visit was hazy or badly affected. The final report on these cases shows that in 6 complete recovery took place, 3 were totally blind, 1 was blind in one eye, 8 had opacities on the eye, and 1 patient died before treatment was finished.

The day of onset of the disease after the birth of the child is shown in the following table :—

Day of Onset.	No. of Cases.	Day of Onset.	No. of Cases.	Day of Onset.	No. of Cases.
1st day	13	9th day	4	17th day	3
2nd ,,	15	10th ,,	8	18th ,,	—
3rd ,,	31	11th ,,	4	19th ,,	2
4th ,,	30	12th ,,	1	20th ,,	3
5th ,,	22	13th ,	3	21st ,,	3
6th ,,	19	14th ,,	2	Over 21 days	4
7th ,,	15	15th ,,	2	Unknown	27
8th ,,	3	16th ,,	3		
				Total	217

The day on which treatment was begun after the onset of the disease is shown below :—

Day after Onset.	No. of Cases.	Day after Onset.	No. of Cases.	Day after Onset.	No. of Cases.
1st day	62	9th day	3	17th day	—
2nd ,, ...	53	10th ,, ...	1	18th ,, ...	—
3rd ,, ...	19	11th ,, ...	5	19th ,, ...	1
4th ,, ...	10	12th ,, ...	2	20th ,, ...	2
5th ,, ...	7	13th ,, ...	3	21st ,, ...	1
6th ,, ...	3	14th ,, ...	2	Over 21 days ...	4
7th ,, ...	4	15th ,, ...	1		
8th ,, ...	8	16th ,, ...	1	Total	217

Some attempt at classification of the cases according to their severity has been made :—

	No. of Cases.
Purulent discharge (severe cases) ...	69
Muco-purulent discharge (severe cases)	14
Watery discharge (moderately severe cases)	36
Very slight discharge (very mild cases)	47
No discharge (very mild cases) ...	51

Death occurred in 14 of these patients from intercurrent diseases :—

	No. of Cases.
Prematurity	5
Wasting	2
Bronchitis	1
Convulsions	1
Heart trouble	1
Septicæmia	1
Erysipelas	2
Cause unknown	1
Total	14

Reference has already been made to three children rendered completely blind by this disease. The particulars of these cases are as follows :—

Case A.—Discharge from the eyes, with swelling, etc., was noticed five days after birth, and treatment by the family doctor who was not previously in attendance was begun the same day. After 15 days' treatment the child was taken to the hospital, and 16 days later was declared to be blind.

Case B.—Illegitimate. Eye symptoms were detected three days after birth, and on the following day home treatment was begun by the doctor who was called in to treat the child. Later the child was admitted to the hospital, but its condition was then hopeless.

Case C.—Particulars were unreliable. Patient was three weeks old when the notification was received. Eye symptoms began about 3 days after birth and were treated by the doctor attending the mother in her confinement. Some weeks later the child was sent to the Eye Hospital quite blind in one eye and with the condition of the other eye serious. Later the patient became quite blind.

519 visits were paid by the health visitors to patients notified as suffering from ophthalmia neonatorum.

7 patients were visited once.
155 ,, ,, ,, twice.
32 ,, ,, ,, three times.
15 ,, ,, ,, four times.
4 ,, ,, ,, five times.
2 ,, ,, ,, six times.
2 ,, ,, ,, seven times.

All cases of ophthalmia neonatorum notified by doctors during the year were visited by the Health Visitors, and many cases of the disease were also detected by them during their visits to the newly-born children, and medical treatment was obtained for such cases with as little delay as possible.

The home treatment of this disease in many instances is unsatisfactory. In the majority of cases the doctor is unable to attend personally to the cleansing of the child's eyes, with the result that treatment left to the parent or person in charge of the child is more or less ineffective, the lotion for bathing the eyes being merely rubbed on the outside of the lids. It is, moreover, unusual to take the patient to the doctor each day, and in the time elapsing between the visits to him complications may occur causing complete destruction of vision.

Demonstrations are given by the health visitors to the mothers on how to wash the eyes, but it is obvious that this operation by the parent cannot always be supervised.

Arrangements have been made whereby patients suffering from this disease can be seen at any time at the Eye Hospital, Edmund Street, and, if necessary, admitted to the institution. Where home treatment is proving unsatisfactory, or is likely to be so, it is to be hoped doctors will make full use of this opportunity for obtaining institutional treatment for a disease so damaging in its consequences.

CONTAGIOUS DISEASES OF ANIMALS.

The following report has been prepared by Mr. John Malcolm, F.R.C.V.S., Veterinary Superintendent :—

HOLLIDAY STREET WHARF,
BIRMINGHAM.

I have pleasure in submitting herewith a short report on the occurrence of some of the chief scheduled contagious diseases in animals here during the year 1913.

Glanders and Farcy.—There were two cases of glanders in horses in the City last year. One was in a polo pony, which was found affected in the month of June, and the other in a pony in the same stable some months later. The polo pony was a recent purchase from outside the City, and was undoubtedly affected when purchased. Four other suspected cases were reported, but none of them proved to be glanders.

The following table shows the occurrence of glanders in Birmingham during the last six years:—

In 1908 there were 100 cases.
In 1909 there were 3 cases.
In 1910 there were 10 cases.
In 1911 there were 9 cases.
In 1912 there were 2 cases.
In 1913 there were 2 cases.

On December 31st there was no suspicion of any horses in the City being affected with glanders. Since the extermination of glanders in Birmingham in 1908 the cases that have occurred have been due to the introduction of diseased animals from outside. Until glanders is exterminated in the country Birmingham is always liable to its re-introduction.

Anthrax.—During the year 15 suspected cases of anthrax were reported to us. All of these were examined, but only one case was found affected. This was the carcase of a bull sent to the market for sale.

Foot and Mouth Disease.—During the year two suspected cases of foot and mouth disease were observed in the market. Examination showed them not to be cases. During the time of scare caused by the outbreaks of foot and mouth disease among imported Irish cattle all the recently imported cattle and pigs were carefully examined, but no suspicious case of the disease in any imported animal was observed here.

Rabies.—During the year a number of dogs have been submitted as suspected of rabies, but on examination no dog was found affected.

Swine Fever.—During the year 278 dead pigs have been submitted for examination. Of these 28 presented symptoms more or less suspicious of swine fever, and 14 were certified by the Board of Agriculture as being infected. The animals in contact with these 14 affected were subsequently slaughtered. The disease has been repeatedly stamped out in Birmingham but is being continually re-introduced from outside.

Parasitic Mange in Horses.—During the year there were 74 outbreaks of mange affecting 115 horses. Of these 7 horses were destroyed, the disease in them being so far advanced that the owners decided to have them slaughtered. The other 108 animals were subsequently cured.

Tuberculosis Order, 1913.—This order came into force May 1st, 1913. From its date till December 31st, 1913, 27 reported cases of suspected tuberculosis with emaciation or with disease of the udder were dealt with. Of these 9 were slaughtered by order of the Local Authority, 16 were slaughtered by the owners and two were discharged as not affected. The 9 slaughtered by the Local Authority were all found on post mortem to be affected with tuberculosis in an advanced degree, and compensation in each case was paid as prescribed by this order. Of the 16 slaughtered by the owners 8 were cases of advanced tuberculosis and 8 cases of advanced John's disease. Generally speaking, as many cases of chronic emaciated cows are found to be affected with John's disease as with tuberculosis, and in many cases it is only by careful examination that they can be differentiated.

(Signed) JOHN MALCOLM,
Veterinary Superintendent.

DISINFECTION.

The following is a report by Drs. Higgins and Dale, on an investigation which was undertaken by them with a view to arriving at a method of disinfecting articles of clothing efficiently without at the same time damaging the articles either by scorching them or fixing any stains :—

Public Health and Housing Department,
The Council House,
Birmingham.

The method of disinfection of infected articles that is most employed in this country at the present time is to subject them to the action of steam. This is done in various ways. In some processes current steam is employed at atmospheric pressure, and in some apparatuses of this type the steam is superheated. In the form of apparatus most commonly used, however, the disinfecting agent is saturated or slightly superheated steam at a pressure of 15 to about 20 lb. to the square inch.

From the point of view of disinfection this last type of apparatus is excellent, provided that it is properly managed, and that the chamber is not too tightly packed. The water vapour has considerable penetrating action, and its temperature leaves a considerable margin of safety.

The chief disadvantage of the process is the damage that it causes to many kinds of articles that have commonly to be sterilized. Such damage is usually due either :—

(1) to injury to the substance of the article by steam at the high temperature employed, or

(2) the fixing of stains.

It is well known, for instance, that leather is spoiled by pressure steam disinfection. The ordinary mattress which comes for disinfection is provided with leather tabs, and these are destroyed by the process.

More important than this is the relatively slighter damage that is done to woollen and also to silk fabrics. The value of a new blanket is distinctly diminished by a single disinfection with pressure steam, the change showing itself by a hardening and shrinking of the fabric, and a deepening of the yellow colour. These changes become very marked in the blankets of an institution such as a hospital, which have to be repeatedly disinfected. As blankets and woollen garments are amongst the commonest and most valuable articles that require to be disinfected, this deterioration is a matter of considerable practical importance. The staining also is a real practical difficulty, and a source of many complaints and claims. Existing stains of an albuminous nature, such as those from blood and fæces, become fixed, and urine and milk marks are rendered dark and indelible. All of these are forms of soiling common upon bedding and garments.

With the object of minimising the damage to blankets and woollen garments, these articles have for some years in Birmingham been exposed to steam of only 5 lbs. pressure, and for twenty minutes only—a less reliable method which still damages them to some extent.

Moreover, there are certain classes of articles which frequently require to be disinfected but which are destroyed or greatly damaged by a moist heat of 100 deg. C. or more. Furs and skins, leather goods of all kinds, such as boots and gloves, and polished articles of various kinds, are constantly exposed to infection. Library books, and books and papers of value are frequently found upon infected premises. Brushes or hides in quantities may be suspected or shown to be infected with anthrax.

Such articles cannot be disinfected in any ordinary steam apparatus. Their destruction is generally advised and some hundred pounds worth of infected books alone are destroyed in Birmingham annually. If they cannot be destroyed, they are exposed to dry formalin vapour, a process the efficacy of which cannot be guaranteed, or they escape disinfection altogether.

There is in use upon the Continent a method of disinfection which not only does not damage ordinary woollen and other articles in the manner above described, but can also be relied upon to effect a proper disinfection of fur, leather and other goods, including books, which cannot be disinfected by steam in the ordinary way.

It is the method of disinfection by *current steam and formalin vapour under reduced pressure, and therefore at a reduced temperature* (65 deg. to 80 deg. C.). This was first elaborated for practical purposes by Kister and Trautmann, of Hamburg, and the apparatus is described by them under the name of the Hamburg apparatus. The accompanying diagram is taken from their paper.

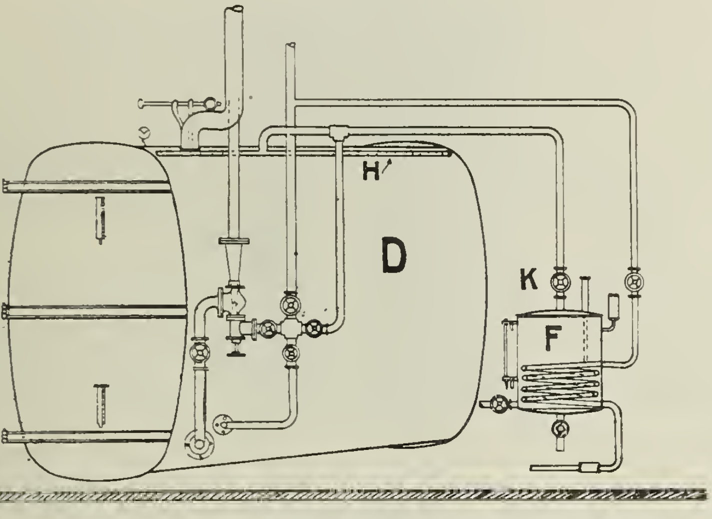


FIG: 1.

The apparatus consists of the chamber D, in which a vacuum is produced by means of a steam aspirator. The disinfection is accomplished by the passage through this chamber of a mixture of water vapour and formaldehyde from the boiler F. This is a smaller metal boiler connected to the chamber D by a short pipe. It is filled with 2 per cent. formaldehyde solution heated by means of a steam coil. This solution, when heated under a vacuum of 15-20 inches of mercury, boils at a temperature of 70 to 80 deg. C., and the vapour produced is drawn into and through the chamber D.

The duration of the process is about one hour, and the amount of formalin solution evaporated is about four gallons.

There are other similar forms of apparatus in use in Germany, such as the Rubner apparatus, in which the vacuum is produced by a steam driven air pump, and the formalin vapour is condensed after extraction from the chamber. They do not, however, differ in principle from the one described.

The process as here described has been thoroughly tested by its originators both bacteriologically and as regards injury to damageable articles. In both respects the results are perfectly satisfactory.

All the common pathogenic germs, and certain spore bearing organisms, including B. Mesentericus, the spores of certain strains of which were capable of withstanding the action of current steam for 8 and even 30 and 60 minutes, were killed when exposed in the apparatus. Leather goods, furs, books, etc., were not damaged.

The modern steam disinfectors on the Washington Lyon type are provided with a device whereby the air or steam in the chamber can be exhausted so as to produce a partial vacuum. It occurred to us that an apparatus fitted in this way could very easily be modified, so that the one machine could be used either for its original purpose of disinfection with steam under positive pressure, or with formaldehyde-steam under negative pressure.

We have worked on these lines at the Bacchus Road Disinfecting Station, with one of the machines of the type used in the city, a Lyon's disinfector with Alliott and Payton's improvements.

We had constructed an eight gallon copper boiler with pressure gauge, thermometer, water gauge, screw cap for filling, and tap for emptying. All our preliminary experiments were conducted with this boiler heated with a large gas heater. The steam was led off through a three-quarter inch steam pipe, which was jointed to the ordinary steam inlet of the chamber. This steam inlet, which originally terminated in the side of the chamber rather below the middle, was altered, the steam being now carried up inside the apparatus by a pipe which terminates in a horizontal perforated tube running along the length of the top of the chamber as in the German machine.

The steam piping of the apparatus was also modified so as to allow the aspirator to be served with steam direct from the main boiler. These alterations did not prevent the apparatus from being used in the regular way. The arrangement of the pipes is shown in the diagram at top of next page.

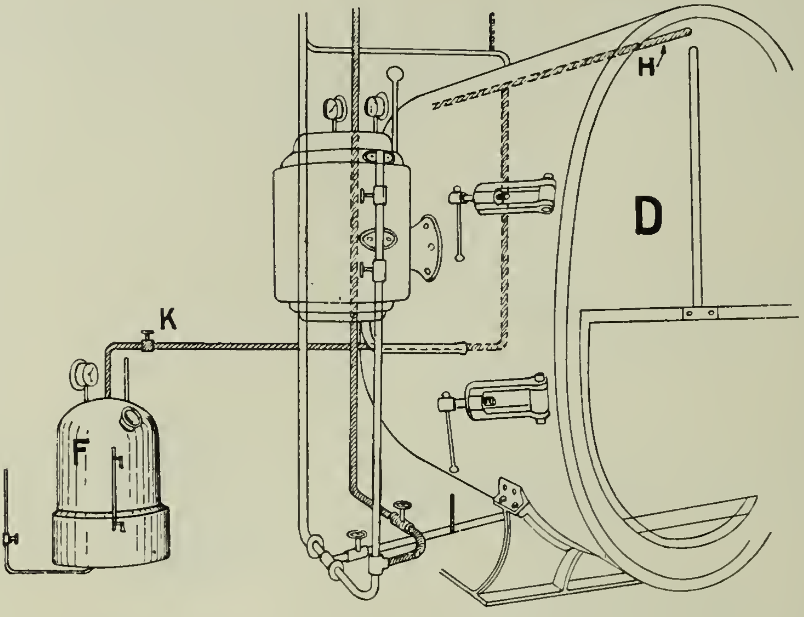


FIG: 2.

Thermometers were inserted (1) in the small boiler above the level of the boiling fluid, (2) in the exhaust pipe from the chamber, and (3) in the exhaust pipe from the jacket.

It was found that with water (or 2% formaldehyde solution) boiling in the small boiler at its maximum rate (viz., 1½ gallons per hour) a vacuum of about 15 inches of mercury (*i.e.*, an absolute pressure of 15 inches) could be maintained, while the temperature of the vapour was from 77 to 81 deg. C. These results were obtained with a steam pressure of from 30 to 80 lbs. in the large boiler. The actual vacuum produced was found to vary slightly from day to day.

The regulation of the vacuum was found to be quite easy. To increase the vacuum and lower the boiling point we shut off the gas from the boiler, and to decrease the vacuum and raise the boiling point we closed the cock between the aspirator and the chamber (*i.e.*, on the chamber exhaust). By such adjustment of these two factors any particular pressure and corresponding temperature within limits could be obtained.

The way we use the apparatus modified in this way is shown in the following description :—

To warm the apparatus we allow steam to dribble through the jacket throughout the experiment, the temperature in the jacket exhaust varying between 90 and 100 deg. C.

The apparatus being hot, the articles to be disinfected are placed in the chamber, care being taken that they are not tightly packed. To avoid this, we fitted the cradle in the chamber with three movable galvanized wire trays of coarse mesh each independently supported.

Four gallons of 2% formaldehyde in water (*i.e.*, 5% formalin) are placed in the small boiler, and the gas lighted.

The aspirator is then started, and the chamber put in connection with the small boiler. The temperature of the vapour varies from 77 to 80 deg. C., the vacuum being from 14 to 16 inches of mercury. The temperature in the chamber exhaust rises to within 10 degrees of that in the formalin boiler in about 30 minutes. If it tends to rise above the temperature of the incoming vapour, the steam is shut off from the jacket.

One hour after the formalin has begun to boil the gas is turned off, and air sucked through the apparatus for a few minutes to remove the formaldehyde vapour in the chamber, which is then opened.

Our apparatus enabled us to evaporate from 1¼ to 1½ gallons of the formalin solution in an hour. Starting with 4 gallons of 2% formaldehyde, we found that the residue after one hour's boiling contained about 1·7% formaldehyde.

We tested the disinfecting power of this process with B. Mesentericus spores, B. Anthracis spores, and B. coli. These were dried on sterile threads which were wrapped in filter paper. In soaking the threads suspensions in water of agar slope cultures of the two sporing germs were used, and broth cultures of the B coli.

Through the kindness of the late Professor Trautmann, of Hamburg, we obtained a B. Mesentericus culture, the spores of which were reputed to withstand the action of steam for eight minutes. In order to verify this, and to test the resistance of the other organisms which we proposed to use as test objects, we made use of the apparatus shown in the accompanying illustration (Fig. 3).

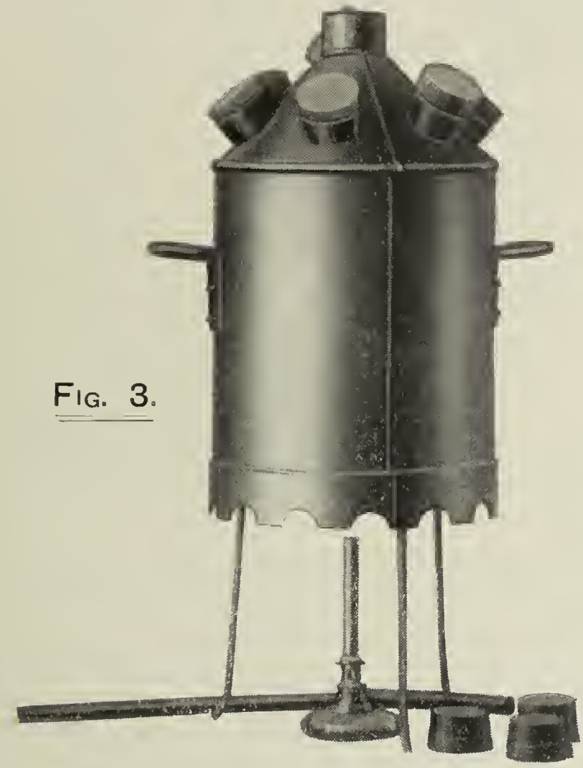


FIG. 3.

It consists of a small vertical copper boiler heated by a Bunsen burner, and having an opening at the top to allow of the escape of the steam. In its upper part the boiler is provided with a number of circular openings of two inches in diameter, and these were fitted with corks. Each of these corks bore a needle, through the eye of which one of the dried threads could be passed. The thread could thus be exposed hanging free in the interior of the boiler for any desired length of time. By means of this apparatus we found that the B. Mesentericus survived an exposure to steam of eight minutes, but not ten minutes, that the B. Anthracis was killed in about 30 seconds, and the B. Coli by momentary exposure.

A large number of experiments were carried out under varying conditions, and it was found that the use of the apparatus for one hour as described above was sufficient to kill all these three bacilli. Moreover, the penetrating power of the formalin-steam was such that the germs, even B. Mesentericus, were killed even when the threads were placed between two ordinary wool mattresses laid one flat above the other, or surrounded by eight thicknesses of folded blanket.

It would be superfluous to record in detail all the experiments. The following examples will serve to illustrate the procedure followed :—

May 22nd, 1913—*Experiment No.* 10.

The chamber was loaded with six large wool flock mattresses and a new blanket.
Two mattresses were placed on the bottom of the cage (called bottom mattresses).
Two mattresses were placed on the lowest tray of the cage (called middle mattresses).
Two mattresses were placed on the middle tray.
The blanket was folded into 16 layers, and placed on the bottom mattresses.

Packets of germs of the three kinds were placed :—
- (*a*) Between the bottom mattresses, these being firmly pressed together ;
- (*b*) Between the middle mattresses ;
- (*c*) Lying uncovered upon the middle mattresses ;
- (*d*) In the middle of the blanket—8 folds above and 8 folds below ;
- (*e*) Beneath the upper four folds of blanket ;
- (*f*) Beneath the upper two folds of blanket.

Four gallons of 2% formalin solution were put in the formalin boiler.

Jacket previously heated by current steam at 100 deg. for half-an-hour.

Gas under boiler lighted at 3.20 and vacuum turned on at 3.42. Formalin solution began to boil at 3.50.

Time.	Temperature. Boiler.	Temperature. Exhaust.	Temperature. Jacket.	Pressure (Negative). Boiler.	Pressure (Negative). Chamber.	Pressure (Positive). Jacket.
3.50	78	63	98	15	15	1
3.55	80½	76	97½	14½	14½	½
4.0	81	77½	97½	14	14	0
4.5	81	79	97	14	14	0
4.10	80	79	96	14	14½	0
4.15	78	77	95½	15	15½	0
4.20	78½	77	96	15½	15½	0
4.25	79	78	96	15½	15½	0
4.35	78	77	95½	15½	15½	0
4.45	80	77	95	15	15	0
4.50	79½	77	95	15	15	0
4.55	79	77	95	15	15	0

Gas turned off at 4.45. Vacuum broken slowly with hot air.
Amount of formalin boiled off—1½ gallons.
The new blanket was not discoloured, and had not shrunk at all.

BACTERIOLOGICAL RESULTS.

(* indicates growth, – indicates no growth.)

	B. Mesentericus. 8 min. spores.	B. Anthrax spores.	B. Coli.
Bottom mattress	*	*	–
Middle mattress	*	–	–
Open	–	–	–
Blanket 8 folds	–	–	–
,, 4 ,, ...	–	–	–
,, 2 ,, ...	–	–	–
Controls	*	*	*

The following protocols illustrate the action of the formalin, pure water being placed in the formalin boiler in experiment A and 2% formalin solution in experiment B.

April 2nd, 1914.—*Experiment A.*

Four gallons of water in formalin boiler. Apparatus all previously warmed.
Load.—Three mattresses on lowest tray.
Ten pillows on middle tray.
Several coats hanging on hooks.
Germs placed—(*a*) Between two mattresses.
(*b*) Between two pillows.
(*c*) In pocket of coat.
(*d*) Lying free.
Vacuum turned on at 12.10.
Gas lighted under formalin boiler at 12.16.

Time.	Temperature. Boiler.	Temperature. Exhaust.	Temperature. Jacket.	Pressure (Negative). Boiler.	Pressure (Negative). Chamber.	Pressure (Positive). Jacket.
12.16	58	57½	98	13	13	1
12.21	77	54	97	16	16	0
12.30	78	60	97	16	16	½
12.38	80	68	97½	15	15	slight
12.45	81	70	98	15	15	½
12.55	80	70	97	15	15	slight
1.5	81	73	97	15	15	,,
1.16	80½	75	96	14½	14½	,,

Gas turned off and vacuum broken.
1¼ gallons boiled off.

BACTERIOLOGICAL RESULTS.

	Mattress.	Pillow.	Pocket.	Open.	Control.
Coli	–	–	–	–	*
Anthrax ...	*	*	*	*	*
8 min. spores	*	*	*	*	*

April 3rd, 1914.—*Experiment B.*

Four gallons of 2% formalin solution in formalin boiler. Apparatus warmed.
Load exactly same as in Experiment A, of April 2nd. The articles have not been moved, but have been dried off in chamber with the door open. They are dry, and have been drawn out to cool before experiment begins.

Spores as yesterday.
Vacuum turned on at 12.17.
Gas lighted at 12.23.

Time.	Temperature.			Pressure (Negative).		Pressure (Positive).
	Boiler.	Exhaust.	Jacket.	Boiler.	Chamber.	Jacket.
12.23	55	45	97	14	14½	slight
12.30	77	46	98	16	16	,,
12.40	77½	59	98	15½	16	,,
12.50	78	64	97	15½	16	,,
12.55	78½	68	98	15½	15½	,,
1.5	80	71	100	14½	15	1½
1.10	80½	73	98	14½	15	½
1.20	81	77	96	13	13½	0
1.28	81½	79	96	13	13	0

Gas turned off. One gallon and one pint gone.

BACTERIOLOGICAL RESULTS.

	Mattress.	Pillow.	Pocket.	Open.	Control.
Coli	–	–	–	–	*
Anthrax ...	–	–	–	–	*
8 min. spores	*	–	–	–	*

These last experiments show that when pure water was used instead of 2% formaldehyde solution the B. Coli was killed, but not the B. Anthracis or B. Mesentericus, even when these were not covered in any way.

It was found to be easy to preserve the sporing germs alive if the articles were too tightly packed, but no apparatus is fool-proof in this respect, and even after a half-hour's exposure to 20lb. steam stone-cold patches can be found in the middle of bundles of bedding if these are too closely pressed together; indeed it is no uncommon sight to see fleas hop unaided from bedding which has been disinfected by pressure steam in this way.

In this connection we would draw attention to the above-mentioned wire work shelves, which have been fitted to the carriages of the instruments at the Birmingham Station. In any large instrument they are a necessity whatever process is employed in order to prevent compression of the articles in the bottom of the chamber. Goods in a disinfecting apparatus should never be tightly packed.

The two varieties of sporing germs which we used furnish a very exacting test of disinfection. The B. Coli is more comparable in resistance to the viruses of the disease for which disinfection is usually done.

The results of our experiments indicate that the process described above is a reliable method of disinfection with considerable penetrating power. It was also found that blankets, goods of leather, silk, feathers, and rubber and books can be subjected to it without damage.

The expense of the formalin is not great. With commercial 40% formalin at 6/10 per gallon, 4 gallons of our 2% formaldehyde solution would cost about 1/4.

In the Hamburg apparatus above described a higher degree of vacuum is obtained with a correspondingly lower temperature (70 deg. C.), and a larger quantity of formalin solution is evaporated per hour. Messrs. Manlove and Alliott are constructing for us a boiler heated by a steam coil from the main boiler, and have modified the aspirator in order to obtain a greater vacuum. With these alterations the conditions obtaining in the Hamburg apparatus will be fairly closely followed.

The results of our experiments show that by a slight and inexpensive modification the ordinary Washington Lyon steam disinfector fitted with an aspirator can be used for disinfecting with formaldehyde-water vapour at reduced pressure, without impairing its convenience for the ordinary pressure-steam method; and that the formalin process, while being a reliable method of disinfection with marked penetrating power, does not harm or stain many fabrics and materials which it is impossible to disinfect with pressure steam without damage.

In these days there is some tendency to question the value of disinfection in ordinary infectious disease, and there is no doubt that it is sometimes perfunctorily carried out. We feel, however, especially in view of the extension of the anti-tuberculosis campaign, that it is a matter of great importance, deserving of more attention than is at present bestowed upon it, and we believe that the method which we have described is a valuable addition to those already in general use in this country.

(Signed)

T. SHADICK HIGGINS,

Medical Officer of Health, St. Pancras, formerly Assistant Medical Officer of Health, Birmingham.

JOHN DALE,

Assistant Medical Officer of Health, Birmingham.

During 1913 the articles disinfected at the two Disinfecting Stations comprised 8,806 beds, 6,595 mattresses, 5,908 counterpanes, 8,995 blankets, 7,483 sheets, 5,408 bolsters, 14,740 pillows, 22,077 garments, 1,368 boots, 3,868 carpets, and 13,203 sundries.

The number of houses disinfected was 7,580 after scarlet fever, 938 after diphtheria, 94 after enteric fever, and 2,043 after tuberculosis.

CITY HOSPITALS.

The following statement shows the number of patients* treated last year in the City hospitals :—

	Scarlet Fever.	Diphtheria.
Under treatment at beginning of year ...	694	29
Admitted during the year	5,944	680
Discharged during the year	5,705	486
Died during the year	137	109
Remaining at end of year	796	114

*In a certain number of cases the diagnosis was revised in hospital.

A good many of the notified cases of Enteric Fever were treated in the General Hospitals of the City ; also a few of the cases of Diphtheria.

The following reports have been made by the Medical Superintendents on the work of the hospitals during the year :—

REPORT ON LITTLE BROMWICH HOSPITAL.

City Hospital,
Little Bromwich.

Gentlemen,

I have pleasure in submitting to you the following report on the work of this hospital for the year ending December 31st, 1913 :—

Statistics.—Scarlet Fever Cases.

Number remaining in hospital December 31st, 1912	452
Number admitted during the year 1913	3,930
Total under treatment during the year 1913	4,382
Discharged during the year 1913	3,786
Died during the year	91
Remaining in hospital December 31st, 1913	505
	4,382

The average duration of stay in hospital was 44·6 days.

The number of deaths, 91, gives a case mortality rate of 2·1 per cent. as against 3·0 per cent. for the year 1912 based on the total number treated. Thirteen of the deaths were of patients who did not have scarlet fever, and were due to morbilli and broncho-pneumonia 2, nephritis and uræmia 1, marasmus and enteritis 1, marasmus and empyema 1, septic tonsillitis and pneumonia 1, pneumonia and enteritis 1, marasmus and bronchitis 1, pneumonia and cardiac failure 1, pneumonia and meningitis 1, pneumonia 1, morbilli 1, and diphtheria and pneumonia 1. If these cases be deducted the mortality rate becomes 1·8. Further, two of the fatal cases were suffering from malignant scarlet fever and died within 48 hours of admission to hospital. Four cases were complicated on admission by scalds and exhaustion 1, broncho-pneumonia 1, Pott's disease (which had recently been operated on) 1, and morbilli 1. If all these complicated cases be deducted, the mortality rate from scarlet fever becomes 1·6.

Complications.

The complications arising in the cases treated during the year are shown in the following table :—

Rhinorrhœa	904	Nephritis	72
Adenitis	790	Pneumonia	27
Otorrhœa	473	Meningitis	5
Albuminuria	416	Conjunctivitis	34
Secondary Tonsillitis	5	Jaundice	5
Rheumatism	77	Appendicitis	1
Abscess	75	Pleurisy	2
Bronchitis	71	Empyema	3

In addition to the complications shown above, there arose during the year 57 cases of secondary scarlet fever, *i.e.*, cases in which a patient developed a secondary attack of scarlet fever or "relapse" while convalescing from the primary attack.

COMPLICATIONS PRESENT ON ADMISSION.

Of those patients who suffered from complications while in hospital, as enumerated in the preceding table, a certain number of cases were suffering from one or more of these complications at the time of admission. The most frequent conditions so existing are shown in the following table:—

276	cases were admitted suffering from	Rhinorrhœa.
399	,, ,, ,, ,,	Adenitis.
63	,, ,, ,, ,,	Otorrhœa.
168	,, ,, ,, ,,	Albuminuria.
4	,, ,, ,, ,,	Rheumatism.
8	,, ,, ,, ,,	Nephritis.
7	,, ,, ,, ,,	Pneumonia.
1	case was ,, ,, ,,	Empyema.

CORRECTED DIAGNOSIS.

Of the patients admitted 194 who had been certified to be suffering from scarlet fever were found on admission to hospital not to be suffering from scarlet fever, but from some other condition. An analysis of these cases is given in the table below:—

Corrected Diagnosis.	No. of Cases.	Contracted Scarlet Fever in Hospital.	Died.
Tonsillitis	60	14	0
Morbilli	26	3	1
German Measles	2	0	0
Otorrhœa	4	0	0
Rhinorrhœa	5	0	0
Albuminuria	3	0	0
Tuberculosis and Tonsillitis	1	0	0
Chicken Pox	1	0	1
Septic Rash	1	0	0
Septic Throat and Morbilli	1	0	0
Pneumonia	4	0	2
Nephritis	1	0	1
Scabies	3	1	0
Enteritis	2	0	0
Septic Tonsillitis and Pneumonia	1	0	0
Marasmus	2	0	0
Bronchitis	2	0	1
Diphtheria	4	0	1
Marasmus and Enteritis	1	0	1
Constipation	1	0	0
Flea Bite Rash	1	0	0
Bronchitis and Marasmus	1	0	1
Vaccinia	3	1	0
Debility	1	0	1
Pharyngitis	2	1	0
Adenitis	1	0	0
Whooping Cough	1	0	0
Pulmonary Congestion	1	0	0
Hip Joint Disease and Follicular Tonsillitis	1	1	1
Gonorrhœal Ophthalmia and Rhinorrhœa	1	0	0
	138	21	11
No definite disease	56	12	0
	194	33	11

In addition to the above list of corrected diagnosis, many patients have been admitted suffering from scarlet fever in addition to some other infectious disease. The chief co-existing diseases were diphtheria, chicken pox, morbilli and whooping cough, and the respective numbers of each are as follows:—

Scarlet Fever and Diphtheria	46
,, ,, Chicken Pox	6
,, ,, Whooping Cough	7
,, ,, Morbilli	29
Total	88

Cross Infection.

2·3 per cent. of the cases on admission were cross infected with either diphtheria, chicken pox, morbilli or whooping cough. In hospital, apart from cross infected cases admitted, a certain number either contracted or developed (after contracting the disease outside) other infectious diseases, the percentage of these being 2·8 per cent., so that the total percentage of the cross infected cases fn hospital for the year was 5·1 per cent. Ringworm and scabies are not included in these statistics. The percentage of cases admitted suffering from the latter diseases was 1·3 per cent., and ·7 per cent. developed these diseases in hospital. If the 2 per cent. of ringworm and scabies cases be added to the other cross infected cases the total then of infectious diseases other than scarlet fever in hospital for the year is 7·1 per cent.

During the first three months of the year two wards were cross infected, one with morbilli and one with chicken pox. This continued until June, but although these two wards were still infected, the number of cases cross infected in each was very small. At the end of September the wards were practically clear. During the beginning of October I had a few cases of chicken pox, two cases of morbilli and a few cases of whooping cough. From October to nearly the end of the year the wards were entirely free from cross infection, for although a few cross infected cases were brought in these were diagnosed in the ambulance and isolated on admission. During the last two weeks of December a number of cases developed chicken pox in one ward, but these cases were at once isolated, and no other wards became infected.

Unclean Heads.

During the year 2,594 patients were admitted with unclean heads, this being about 66 per cent. of the number of cases admitted. Of these patients 1,463 were females and 1,131 males. A good deal of time and energy is expended by the nurses in dealing with this condition.

Bacteriological Examination.

During the year 516 swabs have been taken and 46 of these were found to be positive and 470 negative.

Health of Staff.

The health of the staff has not been very good during the year. The number of staff who were taken off duty on account of illness and the duration of illness are shown in the table below :—

1 Doctor with Scarlet Fever	7	days off duty.
1 Doctor with Diphtheria	49	,,
31 Nurses with Scarlet Fever	975	,,
1 Nurse with Morbilli	27	,,
18 Nurses with Tonsillitis	85	,,
9 Nurses with Rheumatism	56	,
1 Nurse with Appendicitis	91	,,
1 Nurse with Scabies	16	,,
36 Nurses with various minor ailments	146	,,
10 Maids with Scarlet Fever	244	,,
11 Maids with Tonsillitis	55	,,
5 Maids with various minor ailments	63	,,
1 Maid with Prepatellary Bursitis	30	,,
Total for the year	1,844	,,

I am, Gentlemen,
Your obedient Servant,
D. M. SPRING,
Medical Superintendent

REPORT ON LODGE ROAD HOSPITAL.

City Hospital,
Lodge Road.

Gentlemen,

I beg to present to you my report on the working of this hospital for the year ended 31st December, 1913.

The total number of patients under treatment during the year was 1,825, being 80 more than in the previous year. Of the total 1,339 were notified as scarlet fever and 486 as diphtheria.

The number of deaths amongst the scarlet fever cases was 30, giving a death-rate of 2·24 per cent.

The number of deaths amongst the diphtheria cases was 106, giving a death-rate of 21·8 per cent.

DIPHTHERIA.

Admissions	452
Deaths	106
Percentage mortality on number treated	21·8

The operation of tracheotomy was performed 57 times, with 19 deaths, giving a percentage mortality of 33·3. This compares very favourably with any other record.

The number of swabs cultured and examined microscopically was 1,964.

The number of cases of diphtheria admitted during 1913 was very large in comparison with that of previous years. Moreover, the type was a very severe one. A large percentage showed membrane covering the soft and hard palate, and several cases were hæmorrhagic, a type always fatal.

Classification of Diphtheria Cases.

1. Hæmorrhagic	5
2. Laryngeal	64
3. Various degrees of Faucial and Nasal	383

Important Complications.

Paralysis. A. Primary or early.

(1) Cardiac	75
(2) Palatal	2

B. Secondary or late.

(1) Palatal	45
(2) Cardiac	59
(3) Oculo-motor	12
(4) Pharyngeal	6
(5) Facial	8
(6) Lower Limbs	3
(7) Diaphragmatic	2
(8) Accommodation	2
Antitoxin Rash	73
Joint Pains	9

Amount of antidiphtheria serum administered in the hospital, 1913: 4,367,000 units, or an average of 8,270 units per case receiving this treatment.

Amount of antidiphtheria serum given before admission: 26,800 units in 90 cases (out of 452), or 2,977 units each.

If antidiphtheria serum, or antitoxin as it is commonly called, were administered on the first day of disease, or even on the second day, there is ample evidence in the history of the disease to show that almost all cases would be saved, no matter how severe. The only fatal cases would then be (1) *Laryngeal* (or obstruction), too far collapsed to be benefited by tracheotomy; (2) Hæmorrhagic.

Unfortunately diphtheria is a disease, which in its early stages is too often a painless condition. Especially is this so in the most severe forms.

In such cases the first trouble noticed is merely mechanical irritation of a bulk of membrane on the fauces or palate. Hence delay happens in this way, and when at last antitoxin is given, the harm is already done. There are other more obvious ways in which the first few days are allowed to slip by without serum treatment. This accounts for the fairly high death-rate of 21·8 per cent.

The number of patients who died within 24 hours of admission was 22, and within 48 hours of admission was 33.

The average life in hospital of all cases that died was 8 days.

The table below shows the relation of mortality to the number of days ill before admission, or in other words (in most cases) before antitoxin was administered.

It must be borne in mind, for reasons already given, that there is a good chance of the duration of diseases before admission being underestimated by the parents. This period is probably never overstated.

That being the case, it is obvious that the table would be much more valuable if the true figures could be obtained. It is worth noting that two nurses contracted diphtheria of the worst faucial type; antitoxin was given on the first day of illness and recovery took place without complications.

Relation of Deaths and Recoveries to the Duration of Illness Previous to Admission of Cases of True Diphtheria.

No of Days	1	2	3	4	5	6	7	8	9	10	11	12	over 12
Deaths	–	2	7	12	10	2	6	2	2	1	1	1	2
Recoveries ...	5	26	42	37	37	15	9	7	4	5	2	1	4
Mortality per cent.	0	7·1	14·2	24·4	21·2	11·7	40	22·2	33·3	16·6	33	50	33·3

A revision of diagnosis was made in 210 cases.

Various forms of Tonsillitis	137
Scarlet Fever	50
No signs of disease	11
Measles	7
Laryngitis	2
Whooping Cough	1
Ulcerative Stomatitis	1
Chicken Pox	1
Total	210

The average stay in hospital of diphtheria patients that recovered was 35·6 days; of those that died, 8 days.

Cross Infection.

Cases of Diphtheria contracted Measles	4
,, ,, ,, Scarlet Fever	9

SCARLET FEVER.

Number of cases admitted during 1913 was 1,182.
Number of cases under treatment, 1,339. Number of deaths, 30.
Percentage mortality based on number treated was 2·24.
The average stay in hospital of recoveries was 44·5 days; of those that died 2·5 days.
The diagnosis was revised in 88 cases.

No signs of disease	60
Tonsillitis	20
Measles	5
Diphtheria	1
Acute Rheumatism	1
Meningitis	1
Total	88

Cross Infection.

Although 88 negative cases were admitted, 3 only contracted scarlet fever.

Negative cases contracted scarlet fever	3
Cases of scarlet fever contracted diphtheria	8
,, ,, ,, chicken pox	2

Complications.

	Present on Admission.	Occurring after Admission.
Rhinitis	72	298
Otitis	16	130
Albuminuria	10	230
Nephritis	1	35
Scarlatinal Rheumatism	—	21
Conjunctivitis	2	8
Abscess of Neck	—	13
Mastoid Abscess	1	2
Pyæmia	—	1
Meningitis	—	2

Comparing the figures of 1912 with those of 1913, it is found that there is a large falling off of negative cases contracting scarlet fever in hospital.

1912 :—22 of total 138 = about 16·5%.
1913 :— 3 of total 88 = about 3·4%.

There is a diminution also in the occurrence of rhinitis and otitis after admission.

	1912	1913
Rhinitis	442 in total 1,163 =38%	298 in total 1,182 =25·2%
Otitis	146 in total 1,163 =12·5%	130 in total 1,182 =10·9%

This definite reduction of cross infection and incidence of rhinitis and otitis may in some measure be accounted for by the fact that new copper sterilisers have been installed one in each ward. By means of these all the eating utensils of the patients are carefully sterilised after each meal. Such utensils if not sterilised are obviously a factor in the production of cross infection and in the contamination of clean cases with various organisms causing septic discharges. There are many other factors, but from the figures above this particular one seems very important.

Open-air treatment of septic scarlet fever has again been tried with good results. If possible, an open-air ward should be provided in every big isolation hospital.

HEATING WARDS E AND F.—SUGGESTED IMPROVEMENTS.

It has been pointed out that the heating of wards E and F is insufficient in cold weather, and also that smoke escapes into the ward from the fire-places in a high wind. An additional source of heat has been suggested in the form of a hot water pipes system in these wards.

MOTOR AMBULANCE FOR DIPHTHERIA.

The provision of a motor ambulance for removal of diphtheria patients has been favourably considered by the Committee. It is advisable for two reasons: (1) the necessity of quickest removal possible of cases of respiratory obstruction, and of cases from other hospitals; (2) the immense collecting area since the Greater Birmingham Scheme was adopted.

STRUCTURAL ALTERATIONS.

A large new heater was installed in the boiler house September, 1913, supplying hot water to the Laundry, wards E, F, G, and H.

It replaced two old heaters which were corroded.

The cooking steamers in the kitchen had steam chests, fittings, and pipes renewed in August, 1913.

The repairing of the roads in the hospital was completed, and has proved a great success.

HEALTH OF THE STAFF.

Total number of Nurses off duty	41
,, ,, Maids ,, ...	17
Total	58
Total number of days off duty—Nurses	531
,, ,, ,, ,, Maids	221
Total days off duty	752

I am, Gentlemen,

Your obedient Servant,

HENRY WHITEHEAD, M.D., D.P.H., etc.,

Medical Superintendent.

REPORT ON WEST HEATH HOSPITAL.

GENTLEMEN,

I beg to submit the following statement of the work done at this hospital during 1913:—

SCARLET FEVER.

Remaining in 31st December, 1912.	Admitted.	Discharged.	Died.	Remaining in 31st December, 1913.
71	399	385	7	78

Death-rate calculated on cases completed during 1913, 1·8 per cent.

3 deaths occurred within 48 hours of admission.

1 death occurred from intercurrent disease.

Deducting these, the scarlet fever death-rate is ·8 per cent.

PHTHISIS PULMONALIS.

Remaining in 31st December, 1912.	Admitted.	Discharged.	Died.	Remaining in 31st December, 1913.
27	211	210	1	27

The average duration of stay in hospital for scarlet fever cases was 50 days, and for consumptive cases, 43 days.

Of the 211 cases of phthisis completed in 1913 the classification was as follows:—

Stage I.	187	211
Stage II.	22	
Stage III.	2	

Tuberculin treatment, combined with graduated labour and exercise, was carried out in almost all the cases. They were then transferred either to the Central Dispensary or King's Norton. In those cases which have completed their course of treatment the results have been highly satisfactory.

I am, Gentlemen,

Your obedient Servant,

ALEX. LEGGAT,

Medical Superintendent.

Table showing age and sex incidence of complications occurring amongst 392 cases of scarlet fever completed in 1913.

	1 year and under 2 years.		2 years and under 3 years.		3 years and under 4 years.		4 years and under 5 years.		5 years and under 10 years.		10 years and under 15 years.		15 years and under 20 years.		20 years and under 25 years.		25 years and under 30 years.		30 years and under 35 years.		35 years and over.		Totals as to Age.
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	
Rhinitis...	1	—	4	—	4	4	3	2	15	6	4	1	—	—	—	—	—	—	—	—	—	—	44
Adenitis	1	—	—	1	3	6	2	3	7	11	5	1	—	—	—	—	—	—	1	—	—	—	41
Adenitis, Supp.	—	—	—	—	1	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	3
Otitis Media Dextra	—	—	—	1	—	1	—	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	5
,, ,, Sinistra	—	—	1	—	—	1	—	—	3	3	—	—	—	—	—	—	—	—	—	—	—	—	8
O.M.D. and O.M.S.	—	—	—	—	1	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Nephritis	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	2
Albuminuria	—	—	—	—	—	—	—	—	1	3	1	1	—	—	—	—	—	—	—	—	—	—	6
Arthritis	—	—	—	—	—	—	—	—	1	2	2	2	—	—	—	—	—	—	—	—	—	1	8
Secondary Throat	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	3
Relapse	—	—	—	—	—	—	1	—	2	1	1	1	1	—	—	—	—	—	—	—	1	—	8
Paronychia	—	—	—	—	1	—	—	1	2	1	1	—	—	—	—	—	—	—	—	1	—	—	7
Toxæmia	—	—	—	—	—	—	—	1	1	1	—	1	—	—	—	—	—	—	—	—	—	—	4
Diphtheria	—	—	—	—	—	1	—	1	2	—	—	1	—	—	—	—	—	—	—	—	—	—	5
Varicella	—	—	—	—	—	—	3	—	1	2	—	—	—	—	—	—	—	—	—	—	—	—	6
Totals as to sex	2	—	6	3	10	13	10	9	37	32	15	10	1	—	—	—	—	1	1	1	1	1	

REPORT ON WITTON HOSPITAL.

City Hospital,
Witton.

Gentlemen,

I beg to submit statistical tables showing the work done in the hospital since its reopening in August, 1913, up to the end of December, 1913.

TABLE I.

Showing the age and sex incidence amongst 339 cases of scarlet fever.

Ages.	Cases		Deaths.		Totals as to Age.	
	Males.	Females.	Males.	Females.	Cases	Deaths.
Under 1 year	1	—	—	—	1	—
1 year and under 2 years	5	5	—	—	10	
2 years ,, 3 ,, ...	4	4	—	1	8	1
3 ,, ,, 4 ,, ...	11	12	1	-	23	1
4 ,, ,, 5 ,, ...	16	7	1	—	23	1
Totals under 5 years	37	28	2	1	65	3
5 years and under 10 years...	67	90	1	—	157	1
10 ,, ,, 15 ,, ...	34	34	2	—	68	2
15 ,, ,, 20 ,, ...	15	10	—	—	25	
20 ,, ,, 25 ,, ...	4	3	-	-	7	—
25 ,, ,, 30 ,, ...	4	0	-	—	4	—
30 ,, ,, 35 ,, ...	1	3	-	—	4	—
35 years and over	2	1	—	—	3	—
	127	141	3	-	268	3

TABLE II.

Showing age and sex incidence of complications amongst 339 cases of scarlet fever.

	Under 1 year	1 year and under 2 years	2 years and under 3 years	3 years and under 4 years	4 years and under 5 years	5 years and under 10 years	10 years and under 15 years	15 years and under 20 years	20 years and under 25 years	25 years and under 30 years	30 years and over	Totals as to Complications
Rhinitis	—	5	4	9	8	31	9	1	—	—	—	67
Adenitis	—	1	2	4	3	15	6	5	—	1	—	37
Abscess	—	—	—	2	—	2	—	1	—	—	1	6
Otitis	—	3	—	4	3	14	4	1		—	—	29
Vaginitis	—	—	—	—	—	3	—	—	—	—	—	3
Arthritis	—	—	—	1	—	7	1	1	1	—	—	11
Secondary Throat	—	—	—	—	—	2	—	1	—	—	—	3
Albuminuria ...	—	—	1	1	4	19	10	1	—	—	—	36
Nephritis... ...	—	—	1	—	—	5	1	—	—	—	—	7
Relapse	—	1	—	1	—	2	1	—	—	—	—	5
	—	10	8	22	18	100	32	11	1	1	1	204

The number of diseases co-existing with the cases of scarlet fever treated is as follows:—

Whooping Cough	6
Ringworm	6
Scabies	4
Herpes	1
Psoriasis	3
Dermatitis	2
Impetigo Contagiosa	2
Intestinal Catarrh	1
Diphtheria	6
Broncho-Pneumonia	3
Bronchitis	3
Epilepsy	1
	38

The diagnosis was revised in four cases, two of which contracted scarlet fever in hospital.

Out of the 339 cases treated there were 5 deaths from scarlet fever and 1 from chorea and chronic Bright's disease. This gives a percentage death-rate of 1·7, and excluding the death-rate which was not due to scarlet fever of 1·4.

The average duration of stay in hospital of patients who recovered was 47·4 days, and of those who died 8·6 days.

All septic cases of scarlet fever which were admitted within a day or two of contracting the disease have been treated by subcutaneous injection of large doses of anti-streptococcic serum (polyvalent). The results of this treatment have proved sufficiently satisfactory so far to justify its continuance.

HEALTH OF STAFF.

The following table shows the employment, disease and duration of illness of members of the staff off duty during 1913:—

Employment— Nurses.	Disease.	Total Days off Duty.
1	Scarlet Fever	43
1	Gastric Catarrh with Jaundice	18
1	Tonsillitis	9
4	Minor ailments	15
7		85
Maids.		
1	Gastric Ulcer with local Peritonitis	27
1	Appendicitis	18
2	Minor ailments	11
4		56

I am, Gentlemen,

Your obedient Servant.

W. T. TORRANCE,

Medical Superintendent.

GENERAL SANITARY WORK.

The staff of the Public Health and Housing Department at the 31st of December last is set out below, together with their general duties:—

1	Medical Officer of Health
1	Senior Assistant
4	District Medical Officers
1	Lady Medical Officer
5	Infant Visitors
1	Chief Sanitary Inspector
8	District Inspectors
24	General Sanitary Inspectors
1	Chief Housing Inspector
1	Deputy Chief Housing Inspector
3	Housing Inspectors
1	Inspector of Common Lodging Houses
1	Inspector of Canal Boats and Houses let in Lodgings
2	Inspectors of Milkshops
3	Inspectors under Food and Drugs Acts
4	Inspectors under Shops Act
4	Inspectors of Workshops
4	Smoke Inspectors
10	Tuberculosis Inspectors
1	Inspector of Midwives
1	Superintendent of Health Visitors
1	Assistant Superintendent
19	Health Visitors
1	Laboratory Assistant
1	Children's Cleansing Station Attendant
1	Draughtsman
23	Clerks
14	Disinfectors
14	Court-yard Inspectors and Cleansers
2	Drivers

A brief summary of the work done by the general Sanitary Inspectors will be found in the table below :—

No. of visits and revisits paid :—

Infectious Diseases	23,246
Nuisances or Complaints	22,943
Work ordered	24,596
Work in progress	20,023
Inspection of Dirty Courts	3,602
House to House Inspection	10,405
Smoke or Water Tests	2,067
Offensive Trades	415
Ice Cream	910
Shop Hours and Seats	129
Owners or Agents	3,805
Other Purposes	7,215

Nuisances, etc., reported :—

Houses to be disinfected after Smallpox	—
,, ,, ,, Scarlet Fever	7,580
,, ,, ,, Diphtheria	938
,, ,, ,, Typhoid Fever	94
Repairs to Houses	27,487
Houses to be cleansed	2,821
Houses to be provided with better ventilation	559
Houses to be provided with separate water supply	212
Cases of overcrowding to be remedied	124
Houses to be provided with Damp Courses	1,553
Water to be removed from Cellars	395
Spouting to be repaired or disconnected	7,546
Rain Water Cisterns to be disconnected or abolished	899
Ashpit Privies to be converted to Water Closets	461
Pan Privies to be converted to Water Closets	1,271
Privies and Closets to be limewashed	4,035
Water Closets to be repaired or reconstructed	7,321
Additional Water Closets to be provided	90
Ashplaces to be repaired or limewashed	5,229
Ash Tubs to be provided	7,331
Soilpipes to be repaired or removed	102
Urinals to be put in order or closed	272
Drains to be relaid or repaired	2,626
Drains to be opened and cleansed	6,927
Gully Traps to be provided	2,998
Interception Traps to be provided on main drains	391
Premises to be supplied with additional drains	1,586
Drains in cellars to be disconnected or abolished	54
Sink Bend Pipes to be repaired or affixed	2,405
Sanitary Sinks to be provided	2,277
Yards to be paved	392
Yards to be repaired	3,634
Courts or Yards to be cleansed by Tenants	439
Wash Houses to be repaired or limewashed	4,075
Keeping of fowls to be discontinued	253
Nuisances from swine and swine styes abated	53
Accumulations of rubbish, manure, etc., to be removed	557
Manure receptacles to be provided or repaired	213
Dangerous premises to be reported to City Surveyor's Department	436
Defective Fittings to be reported to Water Dept.	1,048
Other Work to be done	56

The visits paid in connection with scarlet fever, diphtheria, and enteric fever numbered 23,246, against 16,344 in 1912. The houses referred for disinfection numbered 8,612, against 5,894.

In connection with nuisances discovered by the staff or reported to them by the public, 22,943 visits and 44,619 revisits were paid, against 18,657 and 35,251 respectively in 1912. The number of defects dealt with was over 100,000.

A large part of the work required to remedy these defects was carried out without a written notice being issued. There were, however, 14,288 notices served, and in 81 instances the notices had to be followed by summonses.

The number of water or smoke tests applied to drains was 2,067, against 1,885 in the previous year. As many as 2,626 drains were ordered to be relaid, either entirely or in part, and 1,586 additional drains were asked for.

Orders were given for the conversion to water closets of 1,271 pan privies and 461 midden privies.

The provision for storing ashes and refuse is very unsatisfactory in many of the houses in the City, and special efforts were made last year to get improvements made. Orders were given for 7,331 galvanized iron ashbins to be provided, against 4,950 in 1912, and for 5,229 ashplaces to be put into better condition, against 2,998 in the previous year.

Notices were issued for 392 yards to be paved and for 3,634 to be repaired. The defective condition of a yard inevitably makes it difficult if not impossible to maintain it in a clean condition. The staff of court cleansers effected 17,183 cleansings of courtyards, a considerable part of this work being done at the request of the owners and paid for by them. They also made in the course of this work 81,788 inspections of water closets, removing any obstruction where possible by means of a plunger. The two men employed to systematically inspect the water closets in the poorer courtyards made 67,105 inspections, and found about 7,000 instances in which the closets were in a dirty state.

HOUSING OF THE WORKING CLASSES.

On May 6th, 1913, the following resolution was passed by the City Council :—

> "That in the opinion of this Council it is desirable that an inquiry should be held into the housing conditions in the poorer parts of the City, and the way in which they can best be improved, and that the General Purposes Committee be and they are hereby instructed to consider and report to the Council upon the best method of instituting and carrying out such an inquiry."

On July 29th the General Purposes Committee reported to the Council :—

(1) That the proposed inquiry should be conducted by a Committee of the Council specially formed for the purpose, and

(2) That the Committee should investigate the present housing conditions of the poor in Birmingham, review the past policy of the Council in administering the Housing Acts, obtain information as to conditions existing in other places, and report the facts, with their recommendations as to any future action to be taken by the Council.

The appointment of this special Inquiry Committee may be regarded as one of the most important steps taken in the direction of improving housing conditions in the poorer parts of Birmingham, and their report will be awaited with great interest as a really important contribution to the advancement of housing during the year 1913. In addition, however, to the local interest and activity displayed, the Local Government Board have indicated by their enquiries that they desire that better conditions of housing in the poorer areas of the City should be made available.

The ordinary work of the Public Health and Housing Committee has proceeded very much as in former years, except that towards the end of the year 1913 it became obvious that a house famine was approaching. During the early part of the year and during the summer months certain enquiries which had been made indicated that there was a considerable quantity of small house property void in the central areas of the City, while by the end of the year such houses were few and far between.

The district and assistant inspectors visited and inspected 7,372 houses during the year under the Housing (Inspection of District) Regulations, 1910. Of these houses 1,166 were referred for representation as unfit for human habitation under the Housing, Town Planning, etc., Act, in 728 no defect of any kind was found, and in 5,478 defects more or less numerous were found, in regard to which notices were served under the Public Health Act, with a view to having them remedied.

From the following table it will be noticed that a larger number of dwelling houses were represented during 1913 than in any previous year, and also that the number of closing orders made in regard to houses, *i.e.*, 1,261, considerably exceeded that of any preceding year.

Year.	Represented.		Closing Orders.		Rendered Habitable.		Demolished.		Demolition Notices.	
	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.
1903... ...	304	85	65	19	155	32	34	19	51	15
1904... ...	1119	143	233	31	242	37	127	33	36	6
1905... ...	793	98	327	41	330	38	230	43	61	7
1906... ...	596	87	199	25	370	49	117	26	143	13
1907... ...	806	120	679	102	262	41	422	64	157	24
1908... ...	650	79	184	24	494	69	257	43	164	30
1909... ...	521	70	220	34	381	54	216	45	54	9
1910... ...	609	72	173	27	277	46	291	59	41	10
1911... ...	278	49	360	51	202	30	163	37	71	11
1912... ...	926	135	727	106	300	44	349	36	209	37
1913... ...	1166	227	1261	234	237	44	398	83	553	91
Total ...	7768	1165	4428	694	3250	484	2604	488	1540	253

As in former years, lists follow of the houses which have been represented, and in regard to which closing orders were made.

REPRESENTED.

Situation of Property.	No. of Houses.
Adams Street, 3-6 in 3 Court	4
Adams Street, 45-49	3
Adams Street, 46 and 48	2
Adams Street, 3, 4 and 5 at rear 117	3
Albion Road, Greet, 9 houses known as Railway Terrace at rear of 45	9
Albion Road, Greet, 78-81	4
Amington Road, Hay Mills, 7 cottages known as Waterloo Cottages	7
Aston Road, 11 houses in No. 12 Court rear of No. 84	11
Aston Road, North, 2 unnumbered houses at rear 102	2
Bagot Street, 2 unnumbered houses rear of No. 84	2
Bagot Street, No. 91	1
Banbury Street, Nos. 40 and 41...	2
Barn Street, 30, and the void house adjoining ...	2
Barr Street, 157, and house at rear	2
Barr Street, 1-6 15 Court	6
Barr Street, 125-131, and 1-12 at rear...	16
Barr Street, 1-5 in 9 Court	5
Bell Barn Road, No. 64, and 1-6 at rear	7
Bell Barn Road. 1 and 2 in 35 Court	2
Bishopsgate Street, 11 and 12, and 7 houses in 1 Court	9

Situation of Property.	No. of Houses.
Bloomsbury Street, 2-7 in 6 Court	5
Bordesley Street, 4-6 in 9 Court	3
Bordesley Street, 51-53	3
Bow Street, 44-49, and 6 houses at rear	12
Bow Street, 12-16	5
Bradford Street, 6 unnumbered houses in 23 Court	6
Bradford Street, 1 and 2 back of 215	2
Bradford Street, 1 and 2 in 16 Court	2
Brearley Street, No. 1 at rear of 186	1
Brearley Street, 177 and 179, and 1-9 at rear	11
Brearley Street, 304 and 306, and 1, 2, 3, 4, 5, 7, 8, 10, 11, 12, 13 and 14 in 56 Court	14
Brook Lane, Billesley, Yew Tree Cottage and Holly Tree Cottage	2
Cambridge Street, Wharf Cottage	1
Camden Street, 33 and 35, and Nos. 2, 3, 4, and 5 at rear	6
Camden Street, 39	1
Camden Street, 3 and 4 at the rear of 41 (9 Court)	2
Camden Street, house at rear of 45	1
Camden Street, house at rear of 47 (11 Court)	1
Carver Street, 1-7 in 5 Court	7
Cattell's Grove, house at rear of 56	1
Cecil Street, 4 and 5, and 8 houses at rear	10
Cecil Street, 6 and 7, and 5 houses at rear	7
Cecil Street, 13 and 14	2
Cemetery Lane, Key Hill, 1-3, the void house known as No. 4, and two unnumbered houses	6
Chapel Street, Handsworth, 2-11 Ash Grove	10
Chester Street, 12 and 14, and Nos. 1 and 2 at rear	4
Communication Row, 48 and 49, and 1-4 at rear	6
Constitution Hill, house immediately at rear of 69, and No. 4 at the rear	2
Coventry Street, house rear No. 76	1
Crawford Street, 1-16, and house at rear No. 1	17
Cromwell Street, 1-4 in 69 Court	4
Cromwell Street, house at rear 235	1
Dartmouth Street, 99-103, and 1-3 at rear	6
Dartmouth Street, No. 2 in 16 Court	1
Dartmouth Street, No. 2 in 16½ Court	1
Dartmouth Street, Nos. 1-6 in 16a Court	6
Dartmouth Street, Nos. 242-248, and 1, 2 and 3 in 16b Court	7
Dartmouth Street, Nos. 261 and 263	2
Duke Street, Nos. 2-4 in No. 2 Court	3
Duke Street, Nos. 1-3 in 3 Court	3
Duke Street, No. 16, and 1, 2 and 3 in 6 Court	4
Essington Street, Nos. 61 and 62, and 1 and 2 at rear	4
Farm Street, 1-13 in 64 Court	13
Farm Street, 11-16 in 65 Court	6
Flaxley Road, Stechford, 4 cottages known as Flaxley Cottages	4
Floodgate Street, 114-118	5
Francis Street, 8	1
Francis Street, 27	1
Francis Street, 178-181, and 1-4 in 13 Court	8
Francis Street, 193 and 194, and 2 houses at rear	4
Francis Street, 201 and 202, and the house in 21 Court	3
Francis Street, 203 and 204, and 1 and 2 at rear	4
Francis Street, 205 and 206, and 1 and 2 at rear	4
Francis Street, 1-4 at rear of 68	4
Francis Street, the house in 2 Court	1
Francis Street, the house rear of 162	1
Francis Street, 1-5 in 18 Court	5

Situation of Property.	No. of Houses.
Garland Street, 1, 2 and 3, and two houses at rear	5
Garland Street, 4-7, and 4 houses at rear	8
Garrison Street, 30, and house at rear	2
George Street, 35, and 2-4 rear 31	4
Gladstone Street, Aston, 31 and 33	2
Glover Street, 139, and void house adjoining	2
Great Barr Street, 1-6 at rear of 92	6
Great Brook Street, 123-126	3
Great Brook Street, 1-6 in 12 Court	6
Great Brook Street, 1-7, and house at rear 121 in 11 Court	8
Great Brook Street, 112	1
Great Brook Street, 17 and 18, and 5 unnumbered houses in No. 2 Court	7
Great Brook Street, 130-135, and 1-5 in 15 Court	11
Great Francis Street, 202-206	5
Great Lister Street, 5 at rear of 8	1
Great Lister Street, 1 and 2 in 33 Court	2
Great Lister Street, 3 and 4 at rear of 35	2
Great Lister Street, 1-5 in 18 Court (back of 68)	5
Great Russell Street, 1 in 25 Court	1
Great Russell Street, 203, and 1-8 in 35 Court	9
Great Russell Street, 206-208, and 1-8 in 36 Court	11
Grosvenor Road, Aston, 88-96	5
Grosvenor Road, Aston, unnumbered house (?27), and 7 houses at the rear known as Sunnyside	8
Hanley Street, 61-64, and 1-4 at rear 11 Court	8
Hatchett Street, 63-66	4
Hatchett Street, 84 and 85, and 3 houses at rear	5
Hatchett Street, 86, 87 and 88	3
Heneage Street, 255 and 256, and 2 houses at rear	4
Heneage Street, 183-187	5
Heneage Street, 133-137, and 5 houses in 20 Court	10
Heneage Street, 82 and 83	2
Henry Street, 53 and 55, and 1, 2 and 3 in 1 Court	5
Henry Street, 3 houses in 2 Court	3
Henry Street, 4 houses at rear of 53	4
Henry Street, 119 and 121, and 4 houses at rear	6
Henry Street, 1, 7, 9, 11 and 13, and house immediately at rear 108 Great Brook Street	6
Henry Street, 123, 125, and 127, and 4 houses immediately at the rear	7
High Street, Deritend, 29-31, and 1-10 at rear	13
High Street, Deritend, 16 back of 34	1
Hockley Hill, 20-22, and house at rear 20	4
Holloway Head, 2-9 in 17 Court	8
Holt Street, 46 and 47	2
Holyhead Road, Handsworth, 373	1
Hospital Street, 12 houses in 34 Court	12
Hospital Street, 1-9 in 38 Court	9
Key Hill, 2	1
Key Hill, 2-6 at rear of 45 and 46	5
Key Hill, 47-49, and 1-5 at rear	8
King Alfred's Place, 9 and 10, and 1-4 at rear	6
Lawley Street, 82-86, and 1-3 at rear	6
Lease Lane, 1-10 at the back of 3	10
Legge Street, 46, and two unnumbered houses at rear	3
Little Ann Street, 14, house at rear of 14, and the void inn known as The Woodman	3
Little Barr Street, 2-7 in 2 Court	6
Long Acre, Garden Walk	18
Lord Street, 17-23	4
Love Lane, 1	1
Lower Essex Street, 1, 2 and 3 in 6 Court	3

Situation of Property.	No. of Houses.
Lower Essex Street, 29-32, and 5 houses in 7 Court	9
Lower Trinity Street, 71, and 1, 2 and 3 in 15 Court	4
Lower Trinity Street, 1	1
Lower Trinity Street, 2	1
Lower Trinity Street, 67, and house at rear	2
Lower Trinity Street, 42, and adjoining house	2
Marshall Street, 1-10	10
Meriden Street, 62-65, and 17 houses in 6 Court	21
Meriden Street, 78-80, and 1-4 at rear	7
Meriden Street, the void house between 89 and the Gt. Western Railway Bridge	1
Midland Street, 42, 44, 46, 48, 50, 52, 54, and 6 houses at rear	13
Moore's Row, 1-3, void house adjoining 3, and house at rear No. 3	5
Moore's Row, 8, and adjoining house	2
Mount Street, the two houses at rear 173	2
Myddleton Street, house known as White Cottage, next to No. 20	1
Nelson Street, 1-4 at back of 84	4
Nelson Street, 3 and 4 at back of 94	2
Newhall Hill, 3 back of 61	1
Newhall Street, 190, 192, and house rear 190	3
New John Street, 44 and 45, and 1-5 in 9 Court	7
New John Street, 3 unnumbered houses in the Courtyard at the rear of No. 62	3
New John Street, 106	1
Newtown Row, 1-8 in 31 Court	8
Newtown Row, 5-20 in Court at rear 53	16
Oxford Street, 6 and 7	2
Oxford Street, 1-4 in 7 Court	4
Oxford Street, 22, 23, and 2 houses at rear	4
Palmer Street, 15½, and 1-3 at rear	4
Palmer Street, 32 and 33, and 1-11 in 7 Court	13
Palmer Street, 48, and 1-5 at rear	6
Palmer Street, 49-51, and 1-5 at rear	8
Palmer Street, 52-54	3
Park Lane, Aston, 25 Jordan Place, back of 156	1
Park Lane, Aston, 5 and 6 in 32 Court	2
Park Lane, Aston, 5 and 6 back of 142	2
Park Road, Aston, 3-7 in 11 Court	5
Pritchett Street, 17-20, and 2-7 in 4 Court	10
Pritchett Street, 23, and one unnumbered house at the rear	2
Pritchett Street, 24 and 25, and 1-6 at rear	8
Red Hill Road, 3 cottages formerly occupied by Walker, James and Goldby respectively	3
Richard Street, 6 and 7 in 1 Court	2
Richard Street, 5 back of No. 4	1
Richard Street, 59-63, and 5 houses at rear in 8 Court	10
Rupert Street, 3 and 4 in 3 Court	2
Ryland Road, 115 and 116	2
Ryland Road, 117 and 118, and 1, 2 and 3 at rear	5
Ryland Road, 119 and 120, and 1, 2 and 3 at rear	5
Scotland Street, 10, and 2 houses immediately at rear	3
Smith Street, 57, and 15 Court	4
Smith Street, 1-4, etc., 14 Court	6
Smith Street, 75-78, and 1-4 in the Courtyard immediately at the rear	8
Snow Hill, 1-6 in No. 1 Court	6
Snow Hill, 1-4 at rear of 75	4
Station Road, Stechford, 4 cottages known as Brook Cottages	4

Situation of Property.	No. of Houses.
Stratford Road, Hall Green, Hall Green Cottage	1
Summer Lane, void houses known as 3, 4, 5, 6, 7, 8, 9, 9½, 10, 10½, and 11	11
Sun Street, 12 houses in No. 5 Court	12
Sun Street, 2 houses in No. 6 Court	2
Sun Street, 1-3 in No. 9 Court	3
Sun Street West, 13 and 15, and 1-6 at rear	8
Tennant Street, 176-179	4
Thimble Mill Lane, 7 and 9, 2 houses in 1 Court, 1 and 2 in 3 Court, and 1-3 in 5 Court	9
Thimble Mill Lane, 122 and 123, and 2 houses at rear	4
Tower Street, 9 and 10, and 6 houses at rear in Arley Place	8
Tower Street, 33, 34 and 35, and 1 and 4 at rear	5
Tower Street, 32, and 1-8 in 9 Court	9
Tower Street, 6 unnumbered houses at rear of 28	6
Trent Street, 5, and 1-5, and 3 void houses rear of 4, and 9 void houses rear of 4	18
Trent Street, 23-25	3
Unett Street, 2 and 4 at the rear of 36	2
Unett Street, house at rear of 35	1
Wainwright Street, 2 unnumbered houses in 2 Court	2
Warstone Lane, 83, house immediately at rear of 83, and No. 2 in Court at rear of 83	3
Warstone Lane, 7-15 in No. 9 Court (back of 91)	9
Watery Lane, 64-71 and 1-5 and 3 unnumbered houses rear of 71	16
Watery Lane, 208-213, 10 houses in 25 Court, and 10 houses in 26 Court	26
Watery Lane, No. 1 at rear of 36 and 37	1
Weaman Street, 8 houses back of 35 in 7 Court	8
Weaman Street, 38 and 39, and 10 houses at rear	12
Weaman Street, No. 2 in 19 Court	1
Well Street, 23, 24 and 25	3
Well Street, 1 and 2 in 25 Court	2
Well Street, 1-4 in 24 Court	4
Willis Street, unnumbered house in No. 4 Court	1
Willis Street, 62, 64 and 66	3
Windsor Street, 212	1
Windsor Street, 1-7 in 34 Court	7
Windsor Street, 202, and 2-5 in 32 Court	5
Windsor Street, house rear of 200, and 1-3 in 30 Court	4
Windsor Street, 183-187	3
Windsor Street, 264	1
Windsor Street, 104-116, and 5 houses in 20 Court, 1 and 2 in 22 Court, and 2, 3, and unnumbered house in 24 Court	17
	1,166

CLOSING ORDERS MADE.

Adams Street, 3-6 in 3 Court	4
Adams Street, 45, 47 and 49	3
Adams Street, 46 and 48	2
Adams Street, 3-5 at rear of 117	3
Albion Road, Greet, 78-81	4
Albion Road, Greet, 9 houses known as Railway Terrace at rear of 45	9
Amington Road, Hay Mills, 7 cottages known as Waterloo Cottages	7
Ashted Row, 213-215	3
Aston Road North, 2 unnumbered houses at rear 102	2

Situation of Property.	No. of Houses.
Aston Road North, 15 and 16	2
Bagot Street, 2 houses rear of 84	2
Bagot Street, 91	1
Banbury Street, 40 and 41	2
Barn Street, 30, and unnumbered house adjoining	2
Barr Street, 125-131, and 1-12 in 27 Court	16
Barr Street, 1-5 in 9 Court	5
Barr Street, 1-6 in 15 Court	6
Barr Street, 151, and house at rear	2
Bellbarn Road, 1 and 2 in 35 Court	2
Bellbarn Road, 64, and 1-6 at rear	7
Bishopsgate Street, 5 and 6, and 10-15, one unnumbered house, and 16 at rear	10
Bishopsgate Street, 8, 9, and 10, and 1, 2, 3 and 9 at rear	7
Bishopsgate Street, 4 and 5 in 14 Court	2
Bloomsbury Street, 2, 3, 5, 6 and 7 in 6 Court	5
Bordesley Street, 4, 5 and 6 in 9 Court	3
Bordesley Street, 51, 52 and 53	3
Bow Street, 44-49, and 6 houses at rear	12
Bow Street, 12-16	5
Bradford Street, 1 and 2 in 16 Court	2
Brearley Street, 63, house adjoining 63, and 1, 2 and 3 rear	5
Brearley Street, No. 1, rear of 186	1
Brook Lane, Billesley, Yew Tree Cottage, and Holly Tree Cottage	2
Cambridge Street, Wharf Cottage	1
Carver Street, 1-7 in 5 Court	7
Cecil Street, 6 and 7, and 5 houses at rear	7
Cecil Street, 4 and 5, and 1-8 at rear	10
Cemetery Lane, Key Hill, 2 unnumbered houses	2
Cemetrery Lane, Key Hill, 1, 2, 3 and 4	4
Centre Row, 1-12, etc., and Inge Street, 59	14
Chester Street, 12 and 14, and 1 and 2 at rear	4
Communication Row, 48 and 49, and 1-4 at rear	6
Constitution Hill, house at rear of 69	1
Constitution Hill, 4 at rear of 69	1
Coventry Street, house rear of 76	1
Crawford Street, 1-16, and house at rear No. 1	17
Cromwell Street, unnumbered house at rear of 235	1
Cromwell Street, 1-4 in 69 Court	4
Dartmouth Street, 99, 101, and 103, and 1-3 at rear	6
Dartmouth Street, 1, 3, 4, 5 and 6 in 16a Court	5
Dartmouth Street, 242	1
Dartmouth Street, 244-248, and 1-3 in 16b Court	6
Dartmouth Street, 2 in 16 Court	1
Dartmouth Street, 261 and 263	2
Darwin Street, 56 and 57, and 1-11 in 9 Court	13
Don Street, 27-49 and rear	24
Duke Street, 16, and 1-3 in 6 Court	4
Duke Street, 1, 2 and 3 in 3 Court	3
Duke Street, 2, 3 and 4 in 2 Court	3
Essington Street, 61, 62, and 1 and 2 at rear	4
Farm Street, 11-16 in 65 Court	6
Farm Street, 1-13 in 64 Court	13
Floodgate Street, 114-118	5
Francis Street, 178-181, and 1-4 in 13 Court	8
Francis Street, 8	1
Francis Street, 1-4 at rear of 68	4
Francis Street, 27	1
Francis Street, unnumbered house in No. 2 Court	1
Francis Street, 201 and 202, and No. 1 in 21 Court	3
Francis Street, 203 and 204, and Nos. 1 and 2 at rear	4

Situation of Property.	No. of Houses.
Francis Street, 205 and 206, and Nos. 1 and 2 at rear	4
Francis Street, unnumbered house at rear of 162	1
Francis Street, 193 and 194, and Nos. 1 and 2 at rear	4
Francis Street, 1-5 in 18 Court	5
Garland Street, 1-3, and 3 and 4 at rear	5
Garland Street, 4-7, and 4-7 at rear	8
Garrison Street, 30, and house at rear	2
George Street, 35, and 2-4 at rear of 31	4
Glover Street, 139, and void house adjoining	2
Great Barr Street, 1-6, rear of 92	6
Great Brook Street, 123, and Nos. 1-6 in 12 Court	7
Great Brook Street, 17 and 18, and Nos. 2 and 3 and 3 unnumbered houses in 2 Court	7
Great Brook Street, 125 and 126	2
Great Brook Street, 112	1
Great Brook Street, 1-7, and house at rear of 121 in No. 11 Court	8
Great Brook Street, 130-135, and 1-5 in 15 Court	11
Great Francis Street, 202-206	5
Great Lister Street, 3 and 4, rear of 35	2
Great Lister Street, 1 and 2 in 33 Court	2
Great Lister Street, 5 at rear of 8	1
Great Lister Street, 27-30 and 30a	5
Great Russell Street, No. 1 in 25 Court	1
Grosvenor Road, Aston, 88-96	5
Hanley Street, 61-64, and 1-4 in 11 Court	8
Hatchett Street, 61 and 62, and 1-5 at rear	7
Hatchett Street, 1-3 at rear of 63 and 64	3
Hatchett Street, 1-3 at rear of 65 and 66	3
Heneage Street, 82 and 83	2
Heneage Street, 133-137, and 1-5 in 20 Court	10
Heneage Street, 255 and 256, and 3 and 4 at rear	4
Heneage Street, 183, 184, 185, 186 and 187	5
Henry Street, 53 and 55, and 1, 2 and 3 in No. 1 Court	5
Henry Street, 1, 2 and 3 in 2 Court	3
Henry Street, 1-4 at rear of 63	4
Henry Street, 119 and 121, and 1-4 at rear	6
High Street, Deritend, 29, 30 and 31, and 1-10 at rear	13
High Street, Deritend, 16 rear of 34	1
Holloway Head, 2-9 in 17 Court	8
Holt Street, 46 and 47	2
Hospital Street, 5-16 in 34 Court	12
Hospital Street, 1-9 in 38 Court	9
Keeley Street, 5 and 7, and 1 and 2 at rear	4
Keeley Street, 9-17, and 1-6 at rear	11
Key Hill, 47, 48 and 49, and 1-5 at rear	8
Key Hill, 2-6 at rear of 45 and 46	5
King Alfred's Place, 9 and 10, and 1-4 at rear	6
Lawley Street, 247 and 249, and 2-5 rear of 239-245	6
Lawley Street, 82-86, and 1, 2 and 3 at rear	6
Legge Street, 46, and two houses at rear	3
Lease Lane, 1-10 in 1 Court	10
Little Ann Street, 14, house at rear 14, and void inn known as The Woodman	3
Little Barr Street, 2-7 in 2 Court	6
Lord Street, 17, 19, 21 and 23	4
Lord Street, 112-118	4
Love Lane, No. 1	1
Lower Tower Street, 25-27, and 1-6 at rear	11
Lower Tower Street, 1-4 in 27 Court	4
Lower Tower Street, 68, 69, and 1-10 in 26 Court	12
Lower Tower Street, 1-4 rear of coalyard adjoining No. 6	4
Lower Trinity Street, 67	1

Situation of Property.	No. of Houses.
Lower Trinity Street, 71, and 1-3 in 15 Court ...	4
Lower Trinity Street, 1 and 2	2
Lower Trinity Street, house at rear of 67	1
Lower Trinity Street, 42, and house adjoining ...	2
Marshall Street, 1-10	10
Meriden Street, the void house between 89 and the Great Western Railway Bridge	1
Meriden Street, 78, 79 and 80, and 1-4 at rear ...	7
Meriden Street, 65	1
Meriden Street, 62-64, and 1-17 in 6 Court	20
Midland Street, 42, 44, 46, 48, 50, 52, 54, and 6 houses at rear	13
Moore's Row, 8, and house adjoining 1, 2 and 3, house adjoining 3, and house at rear of 3 ...	7
Mount Street, 2 houses at rear of 173	2
Nelson Street, 1-4 at rear of 84	4
Nelson Street, 3 and 4 at rear of 94	2
Newhall Street, 190, and house at rear	2
Newhall Street, 1 and 10, and 9 houses in 2 Court ...	11
Newhall Street, 192	1
Newtown Row, 1-8 in 31 Court	8
Newtown Row, 5-11 rear of 47 and 49	7
New John Street, 44, 45, and 9 Court	7
New John Street, 106	1
New John Street, 3 houses rear of 62	3
Oxford Street, 22 and 23, and two houses at rear ...	4
Oxford Street, 1, 2, 3 and 4 in Court 7	4
Oxford Street, 6 and 7	2
Palmer Street, 15½, and 1, 2 and 3 at rear	4
Palmer Street, 32 and 33, and 1-11 in 7 Court ...	13
Palmer Street, 48, and 1-5 at rear	6
Palmer Street, 49, 50 and 51, and 1-5 at rear ...	8
Palmer Street, 52, 53 and 54	3
Park Lane, Aston, 25 Jordan Place, rear of 156 ...	1
Park Lane, Aston, 5 and 6 in 32 Court	2
Park Lane, Aston, 5 and 6 in 30 Court	2
Park Road, Aston, 3-7 in 11 Court	5
Pritchett Street, 17-20, and 2-7 in 4 Court	10
Pritchett Street, 1 and 2 in 27 Court	2
Pritchett Street, 6, and 1 at rear	2
Pritchett Street, 26, and 6 Court	8
Pritchett Street, 23, and house at rear...	2
Pritchett Street, 24, 25, and 1-6 at rear	8
Proctor Street, 24-52, and 1, 2 and 3 Courts ...	29
Red Hill Road, 2 cottages formerly occupied by Walker and James	2
Red Hill Road, cottage formerly occupied by Goldby	1
Regent Place, Regent Row, 14-16	3
Regent Place, Regent Row, 25-28	4
Regent Place, Regent Row, Cherry Court	9
Richard Street, 6 and 7 in No. 1 Court	2
Richard Street, 59-63, and 1-5 in 8 Court	10
Richard Street, 44-50, and 7 Court	13
Rowland Street, 6-14, house rear 12, and 4 and 5 in 1 Court	12
Rupert Street, 3 and 4 in 3 Court	2
St. George's Street, 55 and 56, and 1-9 at rear ...	11
St. George's Street, 57 and 58, and 1, 2, 3, 5, 6, 8, 9 and two unnumbered houses at rear	11
St. James's Place, 24-26	3
St. James's Place, 30-33	4
St. James's Place, 34-39	6
Saltley Road, 31-37, and 1-9, 11, and 13-20 at rear...	22
Scotland Street, 10, and 5 and unnumbered house at rear	3

Situation of Property.	No. of Houses.
Sheepcote Lane, 15, 16 and 17, and 1-7 at rear ...	10
Sheepcote Lane, 18 and 19, and 1 and 2 and an unnumbered house at rear	5
Sheepcote Lane, 1, 2, 3 and 4 at rear of 20-23 ...	4
Smith Street, 57, 1 and 2 and unnumbered house in No. 15 Court	4
Smith Street, 1-5, and a workshop occupied as dwelling house in No. 14 Court	6
Smith Street, 75-78, and 1-4 at rear	8
Stratford Road, Hall Green, Hall Green Cottage ...	1
Summer Lane, 3-9½, 10, 10½, and 11	11
Summerhill Street, 1-5 in Summerhill Place	5
Sun Street, 1 and 2 in No. 6 Court	2
Sun Street, 1, 2 and 3 in No. 9 Court...	3
Sun Street, 12 houses in No. 5 Court	12
Tennant Street, 176-179	4
Thimble Mill Lane, 7 and 9, and 2 houses in No. 1 Court	4
Thimble Mill Lane, 1 and 2 in No. 3 Court, and 1, 2 and 3 in 5 Court	5
Thimble Mill Lane, 122 and 123, and 2 unnumbered houses at rear	4
Tower Street, 32, and 1-8 in No. 9 Court	9
Tower Street, 34 and 35, and 1 and 4 at rear ...	4
Tower Street, 33	1
Tower Street, 9 and 10, and 6 houses at rear in Arley Place	8
Trent Street, 1, 2, 3, 4 and 5 at rear of No. 4, and 3 void houses in the same terrace	8
Trent Street, 5, and 9 void houses at rear	10
Trent Street, 23, 24 and 25	3
Vauxhall Road, Jones' Buildings	7
Wainwright Street, 2 unnumbered houses in No. 2 Court	2
Warstone Lane, 83, house at rear of 83, and No. 2 in Court at rear of 83	3
Watery Lane, 208-213, and Nos. 1-10 in 25 Court and 1-10 in 26 Court	26
Watery Lane, 64-71, and Nos. 1, 2, 3, 4 and 5 and 3 unnumbered houses in 6 Court	16
Watery Lane, 1 rear of 36 and 37	1
Weaman Street, 1, 3, 4, 5, 6, 7 and 8, and 1 unnumbered house in No. 7 Court	8
Weaman Street, 2 in 19 Court	1
Well Street, 23, 24 and 25	3
Well Street, 1 and 2 in 25 Court	2
Well Street, 1, 2, 3 and 4 in 24 Court	4
Willis Street, 62, 64 and 66	3
Willis Street, unnumbered house in 4 Court	1
Windsor Street, 202, and 2-5 in 32 Court	5
Windsor Street, 183, 185 and 187	3
Windsor Street, 1 and 2 in 30 Court	2
Windsor Street, 3, and house at rear of 200 in 30 Court	2
Windsor Street, 212, and 1-7 in 34 Court	8
Windsor Street, 240-250, and 1-5 in 40 Court ...	11
Windsor Street, 104-110, and 5 houses in No. 20 Court	9
Windsor Street, 112 and 114, and 1 and 2 in 22 Court	4
Windsor Street, 116, and 2 and 3, and unnumbered house in 24 Court	4
Windsor Street, 264	1
Windsor Street, 38-44	4
	1,261

RENDERED HABITABLE AFTER CLOSING ORDER.

Situation of Property.	No. of Houses.
Adams Street, 45, 47 and 49	3
Alfred Street, Sunnyside, Aston, 4 and 5	2
Bacchus Road, 7 and 8, and one house at rear ...	3
Bath Street, 2, 5, 6 and 7 in No. 2 Court	4
Brearley Street, 29	1
Buck Street, 1, 2 and 3, and 23 Bartholomew Row...	4
Clement Street, 5 and 6 at rear of 61	2
Coleman Street, 44, and 1-4 at rear	5
Crawford Street, 5-16	12
Derby Street (Lily Crescent), 5, 6 and 7, and 1, 2 and 3 at rear	6
Fox Street, 27	1
Great Brook Street, Ashted Place	12
Great Lister Street, 41-46 and rear	12
Green Lane, Handsworth, 65, 67 and 69	3
Hatchett Street, 83 and 83½, and 4, 5 and 6 at rear	5
Hatchett Street, 82, 82½ and rear	8
High Park Street, Nechells, 42, and 2-6 at rear ...	6
Holborn Hill, 1-12 Prospect Place	12
Hurst Street, 5-8, and 13-18	10
Icknield Street, 278, and 1-4 at rear	5
Key Hill, 1, 2 and 3 rear of 16	3
Key Hill, 16...	1
Lawley Street, 247, 249, and 2-5 at rear	6
Lichfield Road, Aston, 7 and 12 rear of 122	2
Lichfield Road, Aston, 8, 9 and 10 in 16 Court ...	3
Lower Tower Street, 28, and 4-13, and unnumbered house adjoining No. 4 at rear	12
Lower Tower Street, 4 houses in 27 Court	4
Meriden Street, 31 and 32	2
Milk Street, 1, 2, 3 and 5 in 2 Court	4
Moorsom Street, 40-46, and 1-4 at rear	8
Nelson Street, 32-38, and 2, 3 and 4 at rear	7
Park Lane, Aston, 25 Jordan Place	1
Pool Street, Aston, 9 and 11	2
Pritchett Street, 6, and 1 at rear	2
Railway Terrace, Nechells, 7, and unnumbered house	2
Saltley Road, 33 and 35, and 1-4, 6-8, 11, 13-15, and 17-20 at rear	17
Sand Street, 7 and 8, and 1 at rear in 1 Court ...	3
Sherborne Street, 1-4 rear of 136 and 137	4
Sherborne Street, 5-8 rear of 138 and 139	4
Summer Hill Street, 1-9 in 1 Court	9
Tower Road, Aston, 1 and 2 in 2 Court	2
Well Street, 23-25	3
Wilton Street, 36-50, and houses at rear	16
Windsor Street, 2-5 rear of 202	4
	237

DEMOLISHED.

Situation of Property.	No. of Houses.
Adams Street, 3, 4 and 5 rear of 117	3
Alfred Street, Aston, 24 and 26, and 1 and 2 at rear	4
Aston Road, 15 and 16	2
Barford Street, 107...	1
Bath Street, 1, 3 and 4 in 2 Court	3
Bath Row, 6 unnumbered houses in Bath Place ...	6
Bellbarn Road, 5 unnumbered houses in 10 Court ...	5
Blucher Street, 1 and 2 rear of 69	2
Blucher Street, 64	1
Bordesley Street, 3-9 in 8 Court...	7

Situation of Property.	No. of Houses.
Brearley Street, 27	1
Bridge Road, Saltley, 92, 94 and 96	3
Cheapside, 5 and 6 in 15 Court	2
Dartmouth Street, No. 2 in 16a Court	1
Derby Street, 12-15, and 2-4 Lily Crescent, and 1-3 at rear	10
Don Street, 27-37, and 1-6 at rear	12
Essington Street, 76-83	8
Essington Street, 84	1
Farm Street, 1-6 in 64 Court, and 11-16 in 65 Court	12
Fazeley Street, 127-139	5
Francis Street, 178-181, and 1-4 at rear	8
Grange Road, Small Heath, 124, 125, 125a, 126 and 127	5
Great Hampton Street, 1-6 rear of 105a	6
Great Lister Street, No. 5 in Court 2	1
Grosvenor Street West, 70, 72, and 1 and 2 at rear	4
High Park Street, No. 1 adjoining 42 at the front ...	1
Hockley Hill, 20, 21 and 22, and house at rear ...	4
Hockley Street, 121, and house at rear	2
Holliday Street, 229, and 1 at rear	2
Holloway Head, 2-7 in 9 Court	6
Holt Street, 46 and 47	2
Holyhead Road, Handsworth, 377, and 2 houses at rear	3
Holyhead Road, Handsworth, 1-3 in 4 Court ...	3
Humpage Road, 11 and 12	2
Hurst Street, 3 and 4, and 9-12 in 1 Court	6
Keeley Street, 6-20	8
Key Hill, 11...	1
Key Hill, 4-8 rear of 16	5
Key Hill, 2	1
Little Ann Street, 14, void public-house known as The Woodman, and house rear of 14	3
Little Edward Street, 7, 8, 9 and 10, and 3 and 4, and 2 houses in 1 Court	8
Love Lane, No. 1	1
Lower Tower Street, 2 and 3 in 10 Court	2
Lower Trinity Street, 1 and 2	2
Lower Trinity Street, 53-56, and rear	8
Meriden Street, 1-3 in 3½ Court	3
Meriden Street, void house between 89 and Great Western Railway Bridge	1
Meriden Street, 78-80, and 1-4 at rear	7
Milk Street, 4 in 2 Court	1
Moorsom Street, 3, 4 and 5 in 4 Court	3
Moseley Road, 1, 2, 3 and 4 in No. 1 Court	4
Myddleton Street, White Cottage	1
Nelson Street, 3-10 rear of 85 and 87	8
New John Street, 137-138, and 1-9 at rear	11
New Summer Street, 78 and 80, and 1-8 in 16 Court	10
New Summer Street, 82, 84 and 18 Court	11
Newtown Row, 1-6 in 34 Court	6
Northumberland Street, 43, and 9 at rear	2
Northwood Street, 4-9 in 14 Court	6
Northwood Street, 13 Court	13
Oxford Street, 22 and 23, and 1 and 10 at rear ...	4
Pope Street, 1-6 rear of 31-38	6
Pritchett Street, 1 and 2 in 27 Court	2
Railway Terrace, Nechells, 8	1
St. James's Place, 30-39	10
Saltley Road, 31, 37, and 5, 9, and 16 at rear ...	5
Sand Street, 2 and 3 in No. 1 Court	2
Sheep Street, 21-23, and house at rear	4
Sheepcote Lane, 3 and 4 rear of 10 and 11	2
Sheepcote Street, 34 and 35, and 1-4 in 7 Court ...	6

Situation of Property.	No. of Houses.
Sheepcote Street, 41	1
Sheepcote Street, 3 and 4, and 1 at rear	3
Summer Hill Street, 10 in No. 1 Court	1
Summer Lane, 201-210, and 1-6 in 26 Court, and 1-6 in 27 Court	22
Tennant Street, 2 and 3 rear of 29 and 30	2
Trent Street, 1-5, and 3 unnumbered houses rear of No. 4	8
Union Road, Aston, 2 unnumbered houses rear of 14	2
Vauxhall Road, 6 unnumbered houses in 8 Court, known as Jones' Place	6
Vauxhall Road, house occupied by James Tarpy	1
Weaman Street, 38 and 39, and 10 houses at rear	12
Well Street, 1-8, and 7 unnumbered houses, all in No. 1 Court	15
Willis Street, 62-66	3
Windsor Street, 227-233, and 1 and 2 in 17 Court, and 1 and 2 in 19 Court	8
	398

DEMOLITION ORDERS MADE.

Adams Street, 3-6 in No. 3 Court	4
Adams Street, 46 and 48	2
Alfred Street, Aston, 24 and 26, and 1 and 2 at rear	4
Aston Road North, 2 unnumbered houses at rear 102	2
Barford Street, 107	1
Bath Row, 6 houses in Bath Place	6
Bellbarn Road, 5 houses in No. 10 Court	5
Bishopsgate Street, 5 and 6, and 10-16, and 1 unnumbered house in the Courtyard at the rear	10
Bishopsgate Street, 8-10, and 1, 2, 3 and 9 at rear	7
Bishopsgate Street, 4 and 5 in No. 14 Court	2
Bolton Road, 1, 2 and 3 at rear of 359	3
Brearley Street, 133-137, and 1-4 in 39 Court	7
Brearley Street, 63, unnumbered house adjoining, and 1, 2 and 3 at rear	5
Cheapside, 89 and 90, and 1-9 in 20 Court	11
Darwin Street, 56 and 57, and 1-11 in 9 Court	13
Derby Street, 12-15, and 2-4 Lily Crescent, and 1-3 at rear	10
Don Street, 39-49, and 1-6 at rear	12
Don Street, 27-37, and 1-6 at rear	12
Fazeley Street, 127-139	7
Fox Street, 27	1
Great Brook Street, 125 and 126	2
Great Brook Street, 1-7 in No. 11 Court, and house at rear of 121	8
Great Hampton Street, house rear of 64	1
Grosvenor Street West, 70 and 72, and 1 and 2 at rear	4
Hatchett Street, 61 and 62, and 1-5 at rear	7
Heneage Street, 255 and 256, and 3 and 4 at rear	4
Hockley Street, 121, and house at rear	2
Holliday Street, 229, and 1 at rear	2
Holyhead Road, Handsworth, 377, and cottage on left at rear	2
Holyhead Road, Handsworth, 1, 2 and 3 in No. 4 Court	3
Keeley Street, 5 and 7, and 1 and 2 at rear	4
Keeley Street, 9, 11, 13, 15 and 17, and 1-6 at rear	11
Kenyon Street, 8 unnumbered houses at rear of 11 and 12 in 4 Court	8
Key Hill, 16, and 1-8 rear of 17 and 18	9
Lawley Street, 4-13 in No. 4 Court	10
Lichfield Road, Aston, 2 and 3 at rear of 465 and 467	2

Situation of Property.	No. of Houses.
Lichfield Road, Aston, 8, 9 and 10 in Sutton Terrace	3
Little Edward Street, 7-10, and 1-4 at rear	8
Lord Street, 1-8 in No. 2 Court	8
Lower Tower Street, 25, 26 and 27, and 1-8 at rear	11
Lower Tower Street, 68, 69 and 1-10 in 26 Court	12
Lower Tower Street, 1-4 rear of coalyard adjoining 6	4
Lower Trinity Street, 17-19, and house at rear of 19	4
Lower Trinity Street, 53-56, and 1-4 at rear	8
Moorsom Street, 20 and 22, and 1-5 in No. 4 Court	7
Moorsom Street, 12-18, and 5-8, and 4 houses in No. 2 Court	12
Mount Street, 2 houses rear of 173	2
Nelson Street, 85 and 87, and 1 and 2 at rear	4
Newhall Street, 1 and 10, and 9 houses in No. 2 Court	11
New John Street West, 345-347, and 1-15 in 46 Court, and No. 1 at rear of 347	19
New Summer Street, 78 and 80, and 1-8 in 16 Court	10
New Summer Street, 82 and 84, and 1-9 in 18 Court	11
Northumberland Street, 19	1
Pool Street, Aston, 9 and 11	2
Pope Street, Aston, 1-6 rear of 31-40	6
Pritchett Street, 26, and 1-7 in No. 6 Court	8
Proctor Street, 24-32, and 1-5 in 3 Court	10
Red Hill Road, Cottage formerly occupied by Goldby	1
Regent Place, Regent Row, Cherry Court	9
Regent Place, Regent Row, 25, 26, 27 and 28	4
Regent Place, Regent Row, 14, 15 and 16	3
Richard Street, 44-50, and 1-6 in 7 Court	13
Rowland Street, 6-14, and house at rear of 12	10
Rowland Street, 4 and 5 in Court No. 1	2
Sand Street, 2 and 3 at rear of Nos. 9 and 10	2
St. George's Street, 48 and 49, and 2 unnumbered houses at rear	4
St. George's Street, 50 and 51, and Nos. 1 and 2 at rear	4
St. George's Street, 57 and 58, and Nos. 1, 2, 3, 5, 6, 8 and 9, and two unnumbered houses at rear	11
St. James's Street, 24-26	3
Sheep Street, 21, 22 and 23, and house at rear 21	4
Sheepcote Lane, 3 and 4 at rear of 10 and 11	2
Smith Street, 1-5 and workshop in 14 Court	6
Summer Lane, 201-205, and 1-6 at rear	11
Summer Lane, 206-210, and 1-6 at rear	11
Swallow Street, 46-48, and 5 and 6 at rear	5
Thimble Mill Lane, 7 and 9, and Nos. 1-3 in 5 Court	5
Thimble Mill Lane, 1 and 2 in 3 Court	2
Thimble Mill Lane, 2 houses in 1 Court	2
Union Road, Aston, 2 houses rear of No. 14	2
Upper Portland Street, 13-17, and 1 and 2 at rear in 1 Court	5
Vauxhall Road, 7 houses in 8 Court, known as Jones' Buildings	7
Watery Lane, 3-11 rear of 174-177	9
Well Street, 1, 2, 3, 7 and 8, house adjoining No. 7, and 8 houses at rear	14
Whittall Street, 2-10 rear of 17 and 18 in 2 Court	9
Windsor Street, 227 and 229, and 1 and 2 in 17 Court	4
Windsor Street, 231 and 233, and 1 and 2 in 19 Court	4
Windsor Street, 223 and 225, and 1 and 2 at rear	4
Windsor Street, 1 and 2 in Court No. 30	2
Windsor Street, 212, and 1-7 in 34 Court	8
Windsor Street, 183, 185 and 187	3
Windsor Street, 38-44	4
	553

LIST OF HOUSES VOLUNTARILY REPAIRED BY THE OWNERS TO THE SATISFACTION OF THE HOUSING DEPARTMENT, WITHOUT NOTICES BEING SERVED UNDER THE HOUSING OF THE WORKING CLASSES ACTS.

Situation of Property.	No. of Houses.
Bath Street, 11	1
Clement Street, 60, 61, and 1-4 and unnumbered houses at rear	7
Great Lister Street, 1-10 in 5 Court	10
Hurst Street, 65	1
Icknield Street, 279	1
Lincoln Street, 3 and 4 rear of 40	2
Meriden Street, 33, 34 and 35, and 4, 5 and 6 at rear	6
Windsor Street, 1 rear of 202	1
	29

The following is a statement in the form required by Article V. of the Housing (Inspection of District) Regulations, 1910, in regard to the Inspection of Dwelling-houses under Section 17 (1) of the Housing, Town Planning, etc., Act, 1909.

(1)	Number of dwelling-houses inspected under and for the purposes of the Section	7,372
(2)	Number of such dwelling-houses which were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation	1,166
(3)	Number of dwelling-houses in respect of which representations were made to the local authority with a view to the making of closing orders	1,166
(4)	Number of dwelling-houses in respect of which closing orders were made by the local authority	1,261
(5)	Number of dwelling-houses, the defects in which were remedied without the making of closing orders	5,478
(6)	Number of dwelling-houses which, after the making of closing orders, were made fit for human habitation	237
(7)	General character of the defects found to exist in the dwelling-house inspected (*see tabular statement on pages* 75 and 76).	

COMMON LODGING HOUSES.

At the commencement of 1913 there were 41 common lodging houses in the City. During the year one of these was closed, and no additional lodging houses were opened. These lodging houses had bed accommodation for 2,447 lodgers. Of the 2,447 beds 96 were provided in separate lodging houses exclusively for the use of women. The general work of the Inspector of common lodging houses is set out below :—

Visits paid by day	2,194
Visits paid by night	203
Windows not thrown open	28
Floors requiring cleansing	56
Bedding to be provided	152
Ventilation to be improved	28
Repairs to walls, floors, roofs, windows	49
Wash basins to be provided	9
Sinks to be repaired	2
Water-closets to be provided	2
Water-closets to be repaired	21
Ash-tubs to be provided	3
Drains to be repaired	6

HOUSES SUB-LET IN LODGINGS.

There were 558 houses on the register as sub-let in lodgings. These houses had accommodation for 2,778 adults. They contained 1,792 rooms, 886 of which were let singly, and 453 as two-roomed lettings. 4,095 visits were paid to these houses by the Inspector during the daytime, either on a week day or Sunday. The general work done by the Inspector of houses sub-let in lodgings is set out on next page.

Overcrowding	41
Improperly mixing the sexes	16
Houses requiring repair	246
Rubbish to be removed	38
Rooms not swept daily	445
Passages not swept	146
Stairs not swept	303
Filthy bedding to be cleansed	43
Houses to be cleansed	274
Drains, etc., obstructed	99
Water-closets to be repaired	52
Ash-tubs to be provided	49
Windows not opened	472
Houses reported to be dealt with under Housing of Working Classes Acts	33
Ventilation and lighting to be improved	2

Owing to the extremely unsatisfactory nature of the accommodation provided in these houses, the Public Health and Housing Committee asked that additional powers should be obtained in the Bill which was to be presented to Parliament, so as to require (1) that in any house let in lodgings no room shall be used the access to which is through the living room or bedroom of another lodger; (2) that the bedclothes shall be kept in a reasonable state of repair and clean, and (3) where a room is let as a living room the firegrate shall be sufficiently large to enable the tenant to use it for cooking. When these additional powers are obtained it will be desirable that a general overhauling of this class of property should be undertaken with a view to raising the standard very considerably.

CANAL BOATS.

The following is a copy of the report on the work done under the Canal Boats Acts :—

Public Health and Housing Department,
The Council House,
Birmingham,
10th January, 1914.

Gentlemen,

In compliance with Section 3 of the Canal Boats Acts, 1884, I present to you the annual report of the work accomplished under the Canal Boats Acts, 1877 and 1884, and the Regulations of the Local Government Board relating to the same, during the year ending December 31st, 1913.

Inspector William G. E. Childs has continued as Canal Boat Inspector, and in addition to this work he also acts as Inspector of Houses let in Lodgings in Birmingham, and performs certain duties in connection with the school attendance of canal boat children. His salary is £117 per annum for the joint appointment, and he is also provided with uniform and cycle allowance. His office is at the Council House, Birmingham.

During the year 1,082 boats, registered to carry 3,314 adults, were inspected, and the actual numbers of persons found on board these boats were 1,464 men and 619 women and 688 children, a total of 2,771 persons—equivalent to 2,427 adults.

The inspections during the several quarters of the year were as follows :—

1st Quarter	259 inspections.
2nd ,, ...	305 ,,
3rd ,, ...	279 ,,
4th ,, ...	239 ,,

The following table gives the yearly numbers of inspections since 1906 :—

Year.	No. of Boats inspected.	No. of Adults these Boats are registered to carry.
1906	1,059 ...	3,507½
1907	1,047 ...	3,348
1908	1,030 ...	3,554½
1909	738 ...	2,416
1910	1,044 ...	3,399½
1911	1,062 ...	3,511½
1912	1,120 ...	3,529
1913	1,082 ...	3,314

Of the 1,082 boats inspected 1,003, or 92·6%, were found to be in accordance with the Acts and Regulations, but in 79 boats, or 7·4% of the number inspected, contraventions were found, and notices of these were served on the owners in every case. The total number of contraventions found was 153, and these are classified in the following table:—

Contravention.	Outstanding and brought forward from 1912.	Number found during 1913.	Remedied during 1913.	Carried forward to be dealt with in 1914.
Registration	2	7	8	1
Notification of change of Master	—	—	—	—
Certificates	2	6	7	1
Marking	10	23	31	2
Overcrowding	—	4	2	2
Separation of the sexes	1	4	3	2
Cleanliness	—	—	—	—
Ventilation	—	—	—	—
Painting of cabins	13	40	50	3
Repairing of cabins	11	42	48	5
Cabins leaking	—	22	21	1
Provision of water cask	3	4	6	1
Removal of bilge-water	—	1	1	—
Notification of infectious disease	—	—	—	—
Admittance of Inspector	—	—	—	—
	42	153	177	18

66 complaint notices were served on owners during 1913, and these, together with 21 outstanding notices from 1912, give a total of 87.

79 notices were returned during the year, certifying that the defects complained of had been remedied, thus leaving 8 outstanding notices to be carried forward and dealt with in 1914. The 79 notices returned represented the rectification of 177 infringements, shown as follows:—

23 boats with *one* infringement =23 total.
20 ,, *two* infringements =40 ,,
30 ,, *three* ,, =90 ,,
6 ,, *four* ,, =24 ,,
79 177

The custom of previous years, of writing to the owners in cases where the notices have not been returned within the stipulated time, has again been followed, and has worked most satisfactorily. In all cases either the notice has been duly returned or satisfactory reasons have been given for the delay, and in no case has it been found necessary to take legal proceedings.

Infectious Disease.

I am glad to be able to report that the canal boats in the City of Birmingham have been singularly free from infectious disease during the year. In spite of the severe epidemics of scarlet fever and measles which have visited the City during 1913, no case of infectious disease has been found, or reported, on the boats.

Boats on Register.

The number of boats on the register on December 31st, 1912, was 433.

Boats registered during 1913	26
Boats cancelled ,,	11
Increase of boats ,,	15
Total number of boats on register on December 31st, 1913	448

The corresponding number of boats on the register at the end of the previous five years were:—

1908	396
1909	397
1910	402
1911	419
1912	433

Boats in Use or Available.

On the basis of the figures arrived at in 1909, in the manner explained in the report of that year, the number of boats registered by the Birmingham Authority, which are now in use, or are available, is about 315, an increase of 15 over last year. This figure must be taken as approximate only.

The number of motor boats now on the Birmingham Register is 10, an increase of 5 over the previous year. They are as follows:—

Nos. 1242 and 1249 registered in 1911.
Nos. 1256, 1275 and 1276 registered in 1912.
Nos. 1286, 1290, 1299, 1301 and 1304 registered in 1913.

They are all propelled by Crude Oil Internal Combustion Engines with the cabin immediately abaft the engine room.

REGISTRATION.

The 26 registrations for 1913 are made up as follows:—

New Motor Boats	5
New Ordinary Boats	12
Re-registration of Ordinary Boats ...	9
	26

Of the above 9 re-registrations 1 was necessitated by structural alterations (addition of fire cabin), and the remaining 8 were due to changes of ownership.

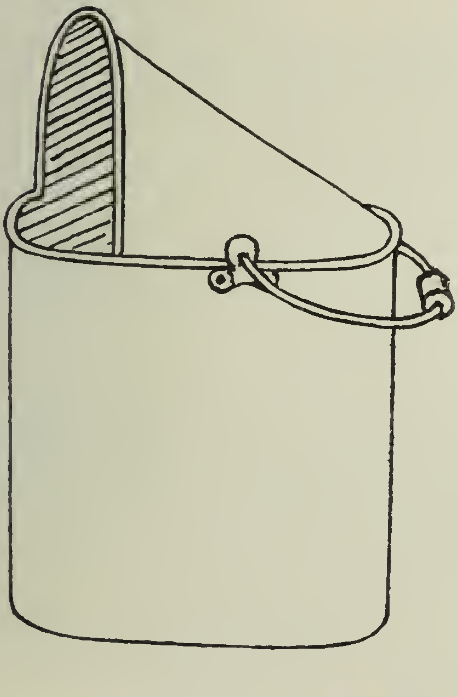
Seven of the 9 boats were previously on the Birmingham register, and are therefore included among the registrations cancelled during the year, while the remaining 2 were previously registered by other Authorities (Leicester and Brierley Hill), who were notified of the re-registration by Birmingham.

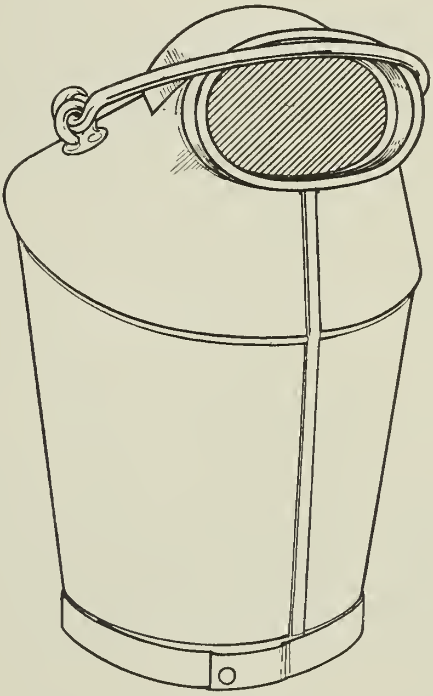
I am, Gentlemen,
Your obedient Servant,
T. W. BEAZELEY, M.B., D.P.H.,
Assistant Medical Officer of Health.

MILK SHOPS.

By far the greater proportion of the milk sold in Birmingham is derived from farms outside the City area, and over which the authorities guarding the interests of those who pay for and consume the milk have no power whatever.

A commencement was made during the year 1913 in the examination of milk sold in the City with a view to ascertaining whether grading of milks on the lines adopted in many American cities would be practicable. The investigation has not gone far enough to make any statement yet, but incidentally the following leaflet was issued in 1914 as a result of some experiments arising out of advice given by Mr. Buckley at a lecture which he delivered in the City.





"COUNCIL HOUSE,
BIRMINGHAM.

"CLEAN MILK.

"The Public Health and Housing Committee of Birmingham desire to draw the attention of farmers and others supplying milk to Birmingham to the necessity of taking care to ensure that the milk which they supply is free from contamination with cow-dung and other foul matters found in cowsheds and their precincts.

"A high degree of cleanliness has been attained in many American cities by methods which are very simple and do not add greatly to the cost of production.

"Bacteriological experiments have been made recently in Birmingham at four good dairy farms, and the results are printed below.

"*Number of germs in 1 cubic centimetre (about a teaspoonful) of milk samples taken by ordinary milking methods, and by special milking methods.*

		Ordinary Method.	Average.	Special Method.	Average.
After 2 hours.	Farm A	6,790	41,312	150	234
	Farm B	10,600		400	
	Farm C	147,500		140	
	Farm D	360		247	
After 24 hours.	Farm A	9,200	1,803,800	160	4,975
	Farm B	5,800,000		18,000	
	Farm C	852,000		400	
	Farm D	554,000		1,340	
After 48 hours.	Farm A	32,000,000	28,790,000	460,000	1,968,375
	Farm B	39,840,000		6,827,500	
	Farm C	16,180,000		38,000	
	Farm D	27,140,000		548,000	

"In every case the special samples were still sweet when the ordinary samples were sour and clotted.

"The Public Health and Housing Committee will be very glad to have tests made at your farm, with a view to ascertaining the efficiency of the methods, and the degree of cleanliness of your milk. An application to either of the undersigned will receive attention.

"SUGGESTED METHOD OF MILKING TO SECURE GREATER CLEANLINESS OF THE MILK SUPPLY.

1. The cows and cowsheds to be kept clean.
2. All long hairs on udder and flank of cows to be kept short by clipping.
3. Cows' flanks to be damped with a damp brush, and their udders wiped clean with a wet cloth before milking, to prevent dust and dirt from falling into the milk.
4. Milkers to wash their hands with soap and water before milking and to wear clean overalls.
5. A covered milking pail to be used with an opening in the side, as per illustration.
6. The milk to be immediately removed from the cowshed into a clean dairy and passed through a strainer and cooled.

"The most important items are the damping of the cows' flanks, and the use of a pail with a side opening.

"From experience elsewhere it may be said that there are from 50,000 to 100,000 germs in every teaspoonful of milk as it leaves the farm, while if the precautions mentioned above are taken the numbers should not exceed a few hundreds. The effect of this greater cleanliness is that the milk is much more wholesome for children, while its keeping qualities, particularly in hot weather, are very much better than in milk produced under ordinary conditions.

"JOHN ROBERTSON, M.D.,
Medical Officer of Health.

"JOHN MALCOLM, F.R.C.V.S.,
Veterinary Superintendent."

Two Inspectors devote the whole of their time to the inspection of dairies, milkshops, and purveyors' premises in the City, the object being to see that the milk is stored under proper conditions, and that the utensils used in the storage, distribution, and sale of milk are kept properly clean. The work of these Inspectors is indicated in the table on the next page.

MILKSHOPS AND DAIRIES.

Dairies on the register	10
Milkshops on the register	4,017
Purveyors on the register	506
Dairies registered during the year	0
Milkshops registered	800
Purveyors registered	46
Dairy certificates cancelled	0
Milkshops ,, ,, ...	853
Purveyors' ,, ,, ...	79
Visits to dairies	42
Visits to milk shops and milk stores...	8,373
Visits to purveyors	91
Milk vessels examined	12,650
Dirty vessels found	14
Milkshops whitewashed	140
Sanitary defects found	188
Other contraventions	9
Dirty churns found at railway stations	0
Cases of infectious disease reported at milkshops ...	126

INSPECTION OF MEAT, FISH, FRUIT, ETC.

At the beginning of 1913 there were 185 private slaughterhouses in the City in addition to the Public Abattoir, and at its close the number had fallen to 181.

The staff of Inspectors supervising the work of meat inspection at slaughterhouses and of food in shops and of fish in markets and shops was 8.

These Inspectors made 13,511 visits to private slaughterhouses, in addition to the systematic visits to markets and to butchers' shops.

The following amounts of meat, fish and fruits were surrendered or seized and destroyed:—

Bad Meat.	
Voluntarily surrendered	4,047 lots.
Seized by Inspectors	3 ,,
Weight destroyed	281 tons.
Persons prosecuted	3
Penalties inflicted	£5
Bad Fish, Poultry, etc.	
Voluntarily surrendered	1,649 lots.
Seized	6 ,,
Weight destroyed	125 tons.
Bad Fruit, etc.	
Weight destroyed	15 tons.

SHOPS ACT, 1912.

(Report by Dr. Beazeley, Senior Assistant Medical Officer.)

The working of this Act for a further period of twelve months confirms the opinions expressed in the last report as to its provisions and the difficulties encountered in its administration.

The chief provisions of the Act are:—

1. The closing of every shop on one day in each week from 1 p.m., unless the shop is specially exempted by the nature of the trade carried on, or belongs to a class of trade to which a special exemption order applies.
2. The granting of a weekly half-holiday to all shop assistants after 1.30 p.m.
3. The granting of specified meal times to shop assistants.
4. The re-enactment of the provision of the maximum number of hours during which young persons can be employed.

The work of inspection under the Shops Act is now carried on by 4 inspectors, who are appointed for the purpose and who devote the whole of their time to this work. The total number of visits paid during 1913 was 36,199.

The number of shops in the City is 23,655 ; of these 5,191 are totally exempted from early closing day by the nature of the trade carried on, and 2,199 are relieved of this necessity by Exemption Orders of the Council, leaving 16,265 shops in which early closing is compulsory.

Shops exempted from half-day closing.—In addition to the shops which are exempted by the Act from closing for the half-day, it is laid down by Section 4, Sub-section 4, that if the occupiers of shops of any particular class desire not to close on one half-day in the week, an order may be granted to them by the Local Authority exempting them from this obligation if it is found that a majority of these shopkeepers are in favour of such an exemption.

In Birmingham exemption orders have been granted to two classes of shops, viz. :—Grocers and photographic studios, which number 2,135 and 64 respectively, and which, therefore, are not under the necessity of closing on one half-day in the week.

Weekly half-holiday orders.—In some cases it is thought desirable that all the shops of a particular class shall close on the same half-day in the week, and Section 6, Sub-section 1, of the Act provides that at the request of a two-thirds majority of any trade an order may be made by the Council fixing a certain day as the weekly half-holiday for that trade. In Birmingham the pawnbrokers and corn and hay dealers have availed themselves of this provision, and have chosen Wednesday as the weekly half-holiday. These orders affect 551 shops, 375 being pawnbrokers, and 176 corn dealers.

In practice the compulsory half-day closing under the Act appears to fall particularly hard on small shopkeepers who employ no assistants, and also upon those who have one shop only as compared with those who have several shops selling the same class of goods. The latter often evade this disadvantage, with its attendant loss of trade, by closing their several shops on different days of the week. It is not uncommon in shops of this class for a notice to be displayed when the shop is closed, stating that another shop, often quite near and belonging to the same tradesman, is open on this day. This is obviously taking advantage of the single shops, which was not contemplated when the Act was framed, but as the law stands at present it cannot be considered illegal.

On the whole the Act has worked very smoothly in Birmingham. During the year notices of infringement of the Act were sent in 384 cases, and in most cases the matters complained of were promptly remedied. Legal proceedings were, however, taken in 42 instances. The 42 summonses issued applied to 34 shops; 28 shopkeepers were prosecuted for 1 offence each, 4 for 2 offences, and 2 for 3 offences each.

The results of these prosecutions are tabulated thus :—

Offences.	No. of summonses issued.	Convictions.	Fined costs only.	Cases withdrawn.	Cases dismissed.
Not closing on the half-day ...	35	32	2	—	1
Not exhibiting closing notice ...	2	1	—	1	—
Not exhibiting assistants' half-holiday notice	4	3	—	—	1
Obstruction of Inspector	1	—	1	—	—

The total amount of fines inflicted was £27 10s. 0d. in addition to costs amounting to £14 8s. 0d., and the following are the details of these penalties :—

For not closing on half-day	6	defendants were fined	2/6	each and costs.
,, ,, ,,	8	,, ,,	5/-	,, ,,
,, ,, ,,	7	,, ,,	10/-	,, ,,
,, ,, ,,	6	,, ,,	20/-	,, ,,
,, ,, ,,	3	,, ,,	40/-	,, ,,
,, ,, ,,	2	,, ,,	60/-	,, ,,
For not exhibiting closing notice	1	,, ,,	5/-	,, ,,
For not exhibiting assistants' half-holiday notice ...	3	,, ,,	20/-	,, ,,

In connection with the above it may be added that in cases when the Act is infringed by (1) shops being kept open on the early closing day; (2) the non-provision of the various notices required to be exhibited, etc., evidence is, as a rule, readily obtainable, and proceedings are taken in the usual way; but it is difficult and often impossible to take action regarding contraventions of the regulations for the protection of the shop assistants themselves, and these are by far the most important provisions, as the Act was ostensibly framed in the interests of this class. Numerous complaints are received, either anonymously or from others than the persons chiefly concerned, as to the inability of the assistant to actually get the weekly half-day or as to insufficient meal times being allowed. All such complaints are investigated, but it is generally impossible to take further action even in cases where it is certain that contraventions have taken place, as the assistants are unwilling to make any personal complaint or to corroborate in Court any evidence otherwise procured for fear that it might jeopardise their employment. This fear may, or may not, be justified, but it does exist, and certainly acts as a deterrent to proper measures being taken in these cases.

In the early days of this Act much difficulty was experienced in its administration by the action of a body calling itself the "Insurance Tax Amendment Society (Shops Section), London." This Society undertook, in return for an annual subscription of 1 to 5 guineas, to conduct the defence and pay the fine imposed in any case of prosecution under the Shops Act. Their clients usually maintained an attitude of passive resistance to the Act, ignored its provisions as to early closing, exhibition of the required notices, etc., and afforded no assistance to the Inspectors when visiting and making enquiries. Owing to the persistent work of the Inspectors, and the firm support afforded by the Magistrates to the local authority in cases brought before them, the influence of this Society soon showed signs of decreasing; at the present time it has quite disappeared in Birmingham, and no trouble is now met with from this source.

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS.

For many years past it has been the custom in Birmingham to examine, for the presence of preservatives, the samples of milk purchased under the Sale of Food and Drugs Acts. Last year 1,822 samples were tested in this way, and four were found to contain boric acid.

Four samples of cream and three of preserved cream were taken under the regulations. The following report on them is in the form prescribed by the Local Government Board:—

Administration in connection with the Public Health (Milk and Cream) Regulations, 1912.

Report for the Year ended 31st December, 1913.

1. Milk, and Cream not sold as Preserved Cream.

	(a) Number of samples examined for the presence of preservative.	(b) Number in which a preservative was reported to be present.
Milk	—	—
Cream	4	3

The nature of the preservative in each case was boric acid, and the Vendors were cautioned.

2. Cream sold as preserved cream.

(*a*) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct.

(i.) Correct statements made	3
(ii.) Statements incorrect	0
Total	3

(*b*) Determinations made of milk fat in cream sold as preserved cream.

(i.) Above 35 per cent.	3
(ii.) Below 35 per cent.	0
Total	3

(*c*) Instances where (apart from analysis) the requirements as to labelling or declaration of preserved cream in Article V. (1) and the proviso in Article V. (2) of the Regulations have not been observed 2

(*d*) Particulars of each case in which the Regulations have not been complied with, and action taken.

In these two instances the labels did not conform with the size of type required. The vendors were cautioned.

3. Thickening substances. No evidence of their addition to cream or preserved cream was obtained.

FACTORIES AND WORKSHOPS.

Certain duties are required to be carried out by the local sanitary authority in regard to Factories and Workshops in addition to those carried out by the Inspectors of the Home Office.

For this work there are in Birmingham four Inspectors appointed by the Public Health Committee.

The following tabular statements show the work done during the year by these Inspectors:—

I.—Inspection of Factories, Workshops and Workplaces.

(Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.)

Premises. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories (including Factory Laundries)	769	107	—
Workshops (including Workshop Laundries)	4581	215	2
Workplaces (other than Outworkers' premises included in Part 3 of this Report)	302	6	—
Total	5652	328	2
Revisits paid	1646	—	—

II.—Defects found in Factories, Workshops and Workplaces.

Particulars. (1)	Number of Defects.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
Nuisances under the Public Health Acts:—				
Want of cleanliness	943	938	—	—
Want of ventilation	38	38	—	—
Overcrowding	—	—	—	—
Want of Drainage of floors	2	2	—	—
Other Nuisances	377	376	—	—
Sanitary accommodation—				
Insufficient	123	123	—	—
Unsuitable or defective	854	850	—	1
Not separate for sexes	63	61	—	1
Offences under the Factory and Workshop Act:—				
Illegal occupation of underground bakehouse (s. 101)	—	—	—	—
Breach of special sanitary requirements for bakehouses (ss. 97 to 100) ...	—	—	—	—
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report) ...	—	—	—	—
Total	2400	2388	—	2

III.—HOME WORK.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.									OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110		
	Lists received from Employers						Notices served on Occupiers as to keeping or sending Lists.	Prosecutions.							
	Sending twice in the year.			Sending once in the year.				Failing to keep or permit inspection of Lists.	Failing to send Lists.	Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110).	Prosecutions Sections 109, 110).
	Lists.	Outworkers. Contractors	Outworkers. Workmen.	Lists.	Outworkers. Contractors.	Outworkers. Workmen.									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Wearing apparel—(1) making, etc.	358	921	1382	30	64	75	—	—	—	—	—	—	—	—	—
(2) cleaning and washing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Household linen	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lace, lace curtains and nets	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Curtains and furniture hangings	—	—	—	2	33	1	—	—	—	—	—	—	—	—	—
Furniture and upholstery	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Electro-plate	50	273	125	4	9	12	—	—	—	—	—	—	—	—	—
File making	4	19	—	—	—	—	—	—	—	—	—	—	—	—	—
Brass and brass articles	26	76	202	1	—	3	—	—	—	—	—	—	—	—	—
Fur pulling	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cables and chains	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Anchors and grapnels	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cart gear	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Locks, latches and keys	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Umbrellas, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Artificial flowers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nets, other than wire nets	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tents	2	—	45	—	—	—	—	—	—	—	—	—	—	—	—
Sacks	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Racquet and tennis balls	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper bags and boxes	48	—	335	5	—	18	—	—	—	—	—	—	—	—	—
Brush making	14	—	176	1	—	1	—	—	—	—	—	—	—	—	—
Pea picking	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Feather sorting	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Carding, etc., of buttons, etc.	58	57	1399	8	—	127	—	—	—	1	1	—	—	—	—
Stuffed toys	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Basket making	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chocolates and sweetmeats	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	560	1346	3664	51	106	237	701	—	10	1	1	—	—	—	—

IV.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year 4,789

V.—OTHER MATTERS.

		Number.
Matters notified to H.M. Inspector of Factories :—		
Failure to affix Abstract of the Factory and Workshop Act (s. 133) ...		14
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5)	Notified by H.M. Inspector ...	495
	Reports (of action taken) sent to H.M. Inspector ...	407
Other		—
Underground bakehouses (s. 101) :—		
Certificates granted during the year		—
In use at the end of the year		12

BLACK SMOKE NUISANCE.

The following statement indicates the number of chimneys emitting smoke and fumes from works of various kinds in the City:—

NO. OF CHIMNEYS EMITTING BLACK SMOKE OR OTHER NOXIOUS FUMES.

DESCRIPTION OF TRADES.	No. of Chimneys emitting Black Smoke.					No. of Chimneys emitting other Noxious Fumes.				Totals.
	Boilers, all types.	Furnaces, all types.	Combined Boilers and Furnaces.	Baking Ovens.	Not Known.	Strip Casting.	Brass Casting	Refiners, Solder and Spelter Manufacturers.	Various.	
Tube and Metal Rolling Mills	45	121	52	—	16	109	1	—	21	365
Brassfounders, etc.	18	14	7	—	18	1	232	—	—	290
Nail, Nut and Bolt, etc., Manufacturers	13	7	2	—	8	—	—	—	—	30
Silversmiths, Electro-platers	20	4	3	—	6	1	—	—	—	34
Bedstead, etc., Manufacturers	5	16	2	—	9	—	—	—	—	32
Mineral Water ,, ...	11	—	—	—	2	—	—	—	—	13
Engineers	34	17	2	—	8	—	—	—	4	65
Brewers	35	2	4	—	—	—	—	—	—	41
Bakers	—	—	—	410	—	—	—	—	—	410
Butchers (Pork)	29	—	—	—	—	—	—	—	—	29
Laundries	26	—	—	—	—	—	—	—	—	26
Refiners, Metal Brokers, etc.	2	4	—	—	2	—	—	46	2	56
Pen Manufacturers ...	1	6	2	—	4	—	—	—	—	13
Paint, Varnish, etc., Manufacturers	5	—	1	—	1	—	—	—	11	18
Chemical Works	13	10	1	—	2	—	—	—	6	32
Glass Works	9	17	—	—	—	—	—	—	—	26
Saw Mills and Timber Works	19	—	—	—	—	—	—	—	—	19
Iron Founders	5	25	—	—	5	—	—	—	2	37
Gun, Cycle Fittings, etc. ...	12	11	1	—	—	—	—	—	2	26
Edge Tool Manufacturers ...	9	2	2	—	1	—	—	—	101	115
Brickworks	9	25	5	—	3	—	—	—	4	46
Railway Carriage and Wagon Works	3	14	—	—	—	—	—	—	9	26
Hotels, Electric Supply and Public Institutions ...	56	1	—	—	16	—	—	—	6	79
Miscellaneous	103	21	9	—	32	—	—	—	—	165
Totals	482	317	93	410	133	111	233	46	168	1,[illegible]93

Four Inspectors devote their whole time to making observations each of one hour's duration on works chimneys.

The number of observations made and the result of them is shown in the following table:—

BLACK SMOKE.

Year.	Number of Observations.	Average number of minutes of black smoke per observation.	Offences reported	Cautionary letters sent.	Police Court proceedings.	Total amount of fines.			Total amount of costs.			Average fine.		
						£	s.	d.	£	s.	d.	£	s.	d.
1901 ...	15808	1·34	116	80	35	15	2	6	14	4	0	0	8	7
1902 ...	13445	1·26	139	89	50	33	15	0	19	8	6	0	13	6
1903 ...	16705	1·27	151	71	80	49	7	6	36	15	6	0	13	2
1904 ...	13186	1·39	231	117	98	77	10	0	37	17	6	0	15	10
1905 ...	10034	1·95	250	128	109	69	10	0	41	0	0	0	16	2
1906 ...	8229	2·27	251	116	115	82	15	0	41	19	6	0	17	1
1907 ...	7934	2·29	275	119	116	89	0	0	41	0	8	0	18	11
1908 ...	7125	2·47	243	108	111	66	12	6	38	12	6	0	14	6
1909 ...	9216	2·24	247	80	94	67	15	0	33	6	0	0	17	7
1910 ...	9945	1·99	218	79	75	45	2	6	27	0	0	0	13	11
1911 ...	10686	2·18	258	81	109	117	5	0	37	3	6	1	1	9
1912 ...	10102	2·44	300	152	108	98	10	0	36	19	0	0	18	3
1913 ...	15637	1.31	247	98	90	83	0	0	32	2	0	0	18	9

There can be no doubt about the very considerable reduction in the amount of black smoke from the works in the City. Largely this results from the introduction of gas or electric power in many works in the City. It has been a great advantage in this respect that the Corporation should control both gas and electric power as this enables these important supplies to be given at a cheap rate to benefit the citizens as a whole in making a cleaner atmosphere. In addition, however, to the municipal supplies there are many local supplies produced at the works which greatly relieve the atmospheric impurity.

A good many smokeless varieties of metallurgical furnaces are on their trial, and while it may be difficult to predict that smokeless fuel is possible for all metallurgical furnaces, it has already been proved a success in a good many varieties.

HEALTH VISITORS' WORK.

The work done by the Health Visitors has not varied greatly from that of the previous year. It may be judged quantitatively by the following table:—

	QUARTERS.				TOTAL.
	First.	Second.	Third.	Fourth.	
PRIMARY VISITS :—					
Systematic	128	70	560	138	896
Births	3,200	3,593	5,538	3,888	16,219
Diarrhœa Deaths	59	40	385	301	785
Measles	2,271	733	81	91	3,176
German Measles	34	31	7	13	85
Chicken Pox	493	712	250	563	2,018
Whooping Cough	151	539	418	742	1,850
Mumps	1,230	1,762	425	490	3,907
Vermin :—					
(*a*) Head	327	372	360	436	1,495
(*b*) Body	241	272	258	300	1,071
(*c*) Head and Body	56	45	63	110	274
Ringworm :—					
(*a*) Scalp	12	13	7	5	37
(*b*) Elsewhere	6	14	6	—	26
(*c*) Scalp and Elsewhere	2	2	—	—	4
Scabies	44	45	26	32	147
Unclassified School Cases	1,566	1,766	1,252	2,072	6,656
Other Visits (not included in above) ...	1,162	1,402	2,913	1,756	7,233
Total of Primary Visits ...	10,982	11,411	12,549	10,937	45,879
Useless Visits (i.e., out, removed, etc.	2,154	2,130	2,830	2,415	9,529
Revisits	5,692	6,577	6,848	7,820	26,937
GRAND TOTAL	18,828	20,118	22,227	21,172	82,345

The quality of the work, however, cannot be gauged by statistics, which, though valuable, fail to portray the amount of time and concentrated effort given by the Health Visitors to each case under their observation.

Its nature is so comprehensive that it cannot be classified in detail, so that one visit may denote either the inspection of a home, one or two hours spent in an elementary school, or a half-hour talk at some women's meeting or girls' club.

The aim of this work is chiefly directed towards the amelioration of those conditions which handicap so many of our City children.

Infants.—To this end, in addition to the visiting done in the four consultative areas by the special Infants' Visitors (whose visits are included in the above tabulated record), the births in other districts are visited by the 21 Health Visitors. These visits are of great practical value, for the surroundings of many of the babies are far from wholesome, and need constant supervision. Their mothers, especially those who have had large families (but who may not necessarily have reared them), are, as a class very conservative in their methods of bringing up infants; *e.g.*, bread sop and the dirt-carrying "comforter" are still too much in evidence. Yet the Visitors find that the babies are kept more cleanly and clad more sensibly than formerly; that the use of long-tube bottles is less common even in the poorer homes, and that the mothers show their interest in the information given by spreading it amongst their neighbours, and by calling upon the Visitors for further advice. It is also gratifying to find that visits are welcomed, and invited, by young mothers living in more respectable homes, where, owing to thrift, and a higher and more regular income, greater facilities are afforded for carrying out the suggestions made, and whose infants probably represent a large percentage of our skilled artisan class of the next generation.

Special features in connection with infant visiting are the visits paid to cases of ophthalmia neonatorum; the detection of unsuspected cases of pemphigus, which are then reported to the Inspector of Midwives; and the investigation of deaths from epidemic diarrhœa.

Between infancy and the attainment of school age there is no *absolute* means of obtaining information with regard to infectious diseases, or any unsatisfactory conditions, therefore the earlier the age at which slum-children attend school, the shorter is the gap between the periods of systematised supervision. Also, if they are sent to school, a more or less cleanly appearance is obligatory, and most of their hours are spent in well-directed, organized play, instead of in the gutter or a refuse-strewn courtyard.

School Children.—The cases reported from the schools in 1913 to be dealt with by the Health Visitors numbered approximately 20,000, and comprised non-notifiable infectious diseases (see table), besides skin and other affections, including verminous conditions of head and body. In visiting these diseases the procuring and continuance of medical treatment is insisted upon whenever necessary, and proper precautions both during *and after* the illness are urged upon the parents, which advice, in the case of measles and whooping cough especially, may be of untold value.

During the year 5,022 cases of vermin were reported by the teachers. Numbers of these were visited in the homes, and full instructions given as to the method of cleansing, this often proving effectual.

In many instances procedure was taken under the Children Act (Section 122), as shown by the figures following:—

1,140 warning notices were sent to the responsible parent or guardian.

419 children were, on re-inspection, found free from vermin.

620 children were compulsorily cleansed at Floodgate Street Cleansing Station, and their parent (or guardian) notified of the consequent liability to prosecution.

223 compulsory cleansing was postponed until 1914 for various reasons, as illness, removal, etc.

43 prosecutions were taken with respect to 81 children.

The Health Visitors pay numberless visits to the schools, and, at the request of the teachers, inspect groups of children varying in number from six to a whole class. A considerable amount of hitherto unsuspected vermin is detected in this way, 30% of the children inspected during the last twelve months having been found actually verminous on head or body (or both).

Although body vermin are looked upon with a certain amount of horror by the parents, yet head vermin are ordinarily regarded by them as a matter of course. It is probably no exaggeration to say that 90% of the girls in the dirtier localities have nits of vermin in their hair, indicative of a recently (and a possible future) verminous state, and even the boys are not entirely free from head vermin.

It is found by the Health Visitors that some improvement is noticeable amongst those scholars where inspection is periodic and frequent. It may also be mentioned in this connection that the children examined by them for Country Holiday Societies show a marked tendency towards greater cleanliness, as compared with earlier years.

The widespread habit of buying second-hand clothing, and the lack of any change of clothes (many children even sleeping in some of their day garments), and also of adequate combs and washing utensils, these often being lent from house to house, are all conducive to verminous conditions. The poverty which produces these results may, of course, be a consequence of drink, gambling, etc., or may be the effect of shortage of work, casual labour, or illness.

Due regard must be paid to the facts that a large majority of sanitary conveniences are shared by two or more families, and that these are continually broken open, and occasionally slept in, by vagrants; that numbers of houses contain no water supply, while all water for personal ablutions, etc., has to be heated over the kitchen fire.

Work amongst and for children would be incomplete without a detailed inspection of their homes, where the sleeping accommodation, the state of the bedding, floors, cellars, etc., with numerous other matters, claim the attention of the Visitors. All structural defects and overcrowding are reported by them to the District Inspector.

This brief summary indicates the inadequacy of figures only in describing work with such a wide scope, and presenting so many different aspects, as that of the Health Visitors.

TABLE I.

Vital Statistics of Whole District during 1913 *and previous Years.*

Year.	Population estimated to middle of each year.	BIRTHS.			Total Deaths Registered in the District.		Transferable Deaths.		NETT DEATHS BELONGING TO THE DISTRICT.			
		Uncorrected	Nett.				Non-residents registered in the District.	Residents not registered in the District.	Under 1 year of Age.		At all Ages.	
1	2	Number. 3	Number. 4	Rate. 5	Number. 6	Rate. 7	8	9	Number. 10	Rate per 1,000 Nett Births. 11	Number. 12	Rate. 13
1901	760,989	?	23,866	31·4	14,089	18·6	?	?	4,205	176	13,290	17·5
1902	768,757	?	24,246	31·2	12,973	16·7	?	?	3,503	144	12,650	16·3
1903	776,604	?	23,956	30·9	12,433	16·0	?	?	3,525	147	12,224	15·8
1904	784,532	?	24,260	31·0	14,047	17·9	?	?	4,346	179	13,882	17·7
1905	792,540	?	22,939	29·0	12,132	15·3	?	?	3,224	141	11,948	15·1
1906	800,631	?	23,484	29·4	12,983	16·2	?	?	3,682	157	12,737	15·9
1907	808,803	?	23,233	28·8	12,567	15·6	?	?	3,084	133	12,356	15·3
1908	817,060	?	23,986	29·1	12,782	15·5	?	?	3,124	130	12,596	15·3
1909	825,400	?	22,555	27·4	12,573	15·3	?	?	2,727	121	12,398	15·1
1910	833,826	?	22,288	26·8	11,200	13·5	?	?	2,570	115	11,001	13·2
1911	842,337	?	21,975	26·1	12,760	15·2	?	?	3,298	150	12,623	15·0
1912	850,947	22,186	22,168	26·1	12,131	14·3	338	212	2,470	111	12,005	14·1
Averages for years 1901-1912	805,202	?	23,246	28·9	12,722	15·8	?	?	3,313	143	12,476	15·5
1913	859,644	23,858	23,812	27·3	13,116	15·0	362	208	3,070	129	12,962	14·9

Rates in columns 5, 7, and 13 calculated per 1,000 of estimated population.

Total population at all ages at Census of 1911, 840,202. Area of District in acres, 43,537. Number of inhabited buildings, 177,030.

Average Number of Persons per house, 4·7.

TABLE II.

Causes of, and Ages at, Death during the Year ending January 3rd, 1914.

CAUSE OF DEATH.	AGES.																Males	Fe-males.	Per-sons.
	0–	1–	2–	3–	4–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75–	85–			
I.—General Diseases.																			
Enteric Fever	—	—	—	—	—	—	1	4	2	9	3	1	—	—	—	—	16	4	20
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Relapsing Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1
Smallpox—																			
(*a*) Vaccinated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*b*) Not Vaccinated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Doubtful	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	76	142	90	28	25	31	1	2	2	—	1	—	—	—	—	—	216	182	398
Scarlet Fever	8	19	29	34	30	40	8	5	1	3	2	—	—	—	—	—	94	85	179
Whooping Cough	71	45	20	12	6	9	—	—	—	—	—	—	—	—	—	—	63	100	163
Diphtheria	8	17	14	23	18	68	13	4	1	1	—	—	2	—	—	—	75	94	169
Croup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Influenza	4	2	1	—	1	2	1	3	7	13	19	15	19	21	4	—	65	47	112
Miliary Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Asiatic Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera Nostras...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dysentery	—	—	—	—	—	—	—	—	—	—	1	2	1	—	1	—	3	2	5
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Leprosy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	9	—	—	—	1	—	—	—	—	1	3	4	4	2	4	1	11	18	29
Other Epidemic Diseases ...	3	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	2	2	4
Pyæmia, Septicæmia	4	1	1	—	—	2	—	—	—	—	1	2	3	2	—	—	10	6	16
Glanders	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Anthrax (Splenic Fever) ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rabies	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetanus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mycoses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pellagra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Beri-Beri...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pulmonary Tuberculosis ...	3	6	4	3	3	7	14	38	92	225	271	183	94	30	8	1	608	374	982
Acute Phthisis	—	3	—	—	—	1	2	4	2	9	9	12	2	—	—	—	22	22	44
Acute Miliary Tuberculosis ...	1	2	1	—	—	3	—	1	2	1	1	2	1	—	—	—	9	6	15
Tuberculous Meningitis ...	22	26	16	12	—	20	7	4	1	2	3	—	—	—	—	—	58	55	113
Tuberculosis (Periton. Intest.)	53	24	13	5	2	10	1	5	1	2	3	1	1	—	—	—	69	52	121
Tuberculosis (Spinal Column)	—	—	—	2	—	4	2	—	2	4	1	2	—	1	—	—	14	4	18
Tuberculosis (Joints)	—	—	—	—	—	—	3	1	—	—	—	—	—	—	—	—	4	—	4
Tuberculosis (other organs) ...	1	1	—	—	—	1	3	1	—	3	1	—	2	—	1	—	8	6	14
Disseminated Tuberculosis ...	5	6	3	—	—	2	1	3	1	1	5	1	1	1	—	—	12	18	30
Rickets, Softening of Bones ...	10	10	4	1	1	—	—	—	—	—	—	—	1	—	—	—	17	10	27
Syphilis	37	3	—	—	—	—	—	—	2	—	1	1	1	—	—	—	28	17	45
Other Venereal Diseases ...	1	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	1	2	3
Cancer (buccal cavity)... ...	—	—	—	1	—	—	—	—	—	2	5	23	15	14	2	1	58	5	63
Cancer (stomach, liver, etc.) ...	—	—	—	—	1	—	—	—	—	5	21	49	87	83	27	2	143	132	275
Cancer (periton., intest., rectum)	—	—	—	—	—	—	—	—	1	3	11	33	50	54	15	2	80	89	169
Cancer (female genital organs)	—	—	—	—	—	—	—	—	2	1	21	23	27	20	2	—	—	96	96
Cancer (breast)	—	—	—	—	—	—	—	—	—	3	25	25	29	19	11	2	1	113	114
Cancer (skin)	—	—	—	—	—	—	—	—	—	—	2	1	1	2	4	1	6	5	11
Cancer (other organs)	—	—	—	—	—	—	1	1	2	7	17	38	40	43	15	1	106	59	165
Other Tumours (undefined) ...	—	—	—	—	—	—	—	—	1	—	1	2	1	3	2	1	4	7	11
Rheumatic Fever	—	1	—	—	1	6	6	6	3	9	2	2	5	—	—	—	18	23	41
Chronic Rheumatism	—	—	—	—	—	—	—	—	—	—	1	1	7	12	3	—	6	18	24
Gout	—	—	—	—	—	—	—	—	—	—	1	1	4	6	1	1	13	1	14
Scurvy	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	1	2
Diabetes	—	—	—	—	—	2	—	1	4	8	4	14	26	23	7	1	41	49	90

TABLE II.—*continued.*

CAUSE OF DEATH.	AGES.																Males	Females.	Persons.
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
Exophthalmic Goitre	—	—	—	—	—	—	—	1	1	2	1	3	1	—	—	—	—	9	9
Addison's Disease	—	—	—	—	—	—	—	—	2	1	2	—	—	—	—	—	2	3	5
Leucocythæmia, Lymphad'oma	—	4	1	—	—	—	1	2	—	3	2	—	1	1	—	—	6	9	15
Anæmia, Chlorosis	3	—	—	—	—	2	1	—	—	4	6	2	5	2	1	—	11	15	26
Other General Diseases ...	—	1	—	—	—	1	2	1	2	—	2	1	1	—	—	—	5	6	11
Alcoholism	—	—	—	—	—	—	—	—	—	1	10	8	2	1	—	—	11	11	22
Chronic Lead Poisoning ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Occupational Poisonings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Chronic Poisonings ...	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1
II.—NERVOUS SYSTEM.																			
Encephalitis	—	1	—	—	—	—	2	2	—	2	—	2	—	—	—	—	4	5	9
Cerebro-Spinal Fever	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Meningitis (other forms) ...	51	21	13	8	3	11	8	2	—	7	5	2	1	1	—	—	74	59	133
Locomotor Ataxy	—	—	—	—	—	—	—	—	—	1	1	5	6	2	—	—	11	4	15
Poliomyelitis	1	—	—	1	—	—	—	1	—	1	—	—	—	—	—	—	3	1	4
Other Dis., Spinal Cord ...	—	—	—	—	—	2	1	1	1	1	4	9	13	12	4	2	28	22	50
Cerebral Hæmorrhage, Apoplexy	—	—	—	—	—	—	1	1	—	8	36	77	112	163	110	17	237	288	525
Softening of Brain	—	—	—	—	—	—	—	—	—	1	2	2	6	11	7	—	12	17	29
Paralysis (no specified cause) ...	1	—	—	—	—	—	—	—	—	1	3	5	13	19	10	4	24	32	56
General Paralysis of Insane ...	—	—	—	—	—	—	—	1	2	7	15	10	5	1	—	—	30	11	41
Other Mental Alienation ...	—	—	—	—	—	—	—	—	—	1	2	2	2	1	1	—	3	6	9
Epilepsy	—	—	—	—	—	2	1	5	4	15	8	5	9	6	2	—	27	30	57
Convulsions (5 and over) ...	—	—	—	—	—	3	—	1	—	—	—	—	—	—	—	—	2	2	4
Convulsions (under 5)	151	18	5	2	1	—	—	—	—	—	—	—	—	—	—	—	102	75	177
Chorea	—	—	—	—	1	1	1	—	1	—	—	1	—	—	—	—	2	3	5
Hysteria, Neuralgia, Neuritis ...	—	—	—	—	—	—	—	—	—	1	13	13	4	1	—	—	6	26	32
Other Dis. of Nervous System...	1	1	1	—	1	2	2	—	3	6	8	4	7	3	—	—	23	16	39
Diseases of Eyes and Annexa...	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1	—	1	1	2
Mastoid Disease	—	1	—	—	—	—	—	2	1	—	—	—	—	—	—	—	3	1	4
Other Diseases of Ears ...	—	3	2	2	—	1	1	1	—	1	1	2	—	—	—	—	9	5	14
III.—CIRCULATORY SYSTEM.																			
Pericarditis	—	2	—	1	1	—	1	3	1	1	—	2	—	2	—	—	7	7	14
Acute Endocarditis	—	—	—	—	—	2	4	3	1	9	11	11	4	—	—	—	22	23	45
Valvular Disease	1	—	1	—	—	6	12	15	9	25	66	87	83	84	35	1	171	254	425
Fatty Degeneration of Heart ...	—	1	—	—	—	—	—	—	—	1	4	12	15	25	7	—	33	32	65
Other Diseases of Heart ...	1	3	1	—	1	3	3	4	6	27	46	74	125	167	91	11	258	305	563
Angina Pectoris	—	—	—	—	—	—	—	—	—	—	1	4	10	6	2	—	17	6	23
Aneurysm	—	—	—	—	—	—	—	1	—	—	4	11	7	4	1	—	23	5	28
Arterio Sclerosis	—	—	—	—	—	—	—	—	—	—	2	5	15	39	15	7	58	25	83
Other Diseases of Arteries ...	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	—	—	3	3
Cer. Embolism, Thrombosis ...	—	—	—	—	—	1	1	—	1	1	3	2	17	21	16	3	27	39	66
Other Embolism and Throm. ...	1	—	—	—	—	1	—	—	—	1	1	2	1	1	1	1	5	5	10
Diseases of Veins	—	—	—	—	—	—	1	—	—	1	—	—	3	3	1	—	1	8	9
Status Lymphaticus	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	2	—	2
Other Dis. of Lymphatic System	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1
Other Dis. of Circulatory System	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	1
IV.—RESPIRATORY SYSTEM.																			
Diseases of Nasal Fossæ ...	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1
Diseases of Larynx	7	4	2	4	3	3	—	—	—	—	1	1	—	—	—	—	18	7	25
Diseases of Thyroid Body ...	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	1
Bronchitis	224	58	12	5	2	6	2	1	6	13	37	91	171	226	163	27	511	533	1044
Broncho-pneumonia	197	122	26	14	9	7	—	3	2	1	8	15	18	14	13	4	255	198	453
Lobar Pneumonia	12	13	6	4	2	7	4	4	6	19	35	33	33	14	7	1	112	88	200
Pneumonia (type not stated)...	47	38	19	9	5	13	2	9	5	21	43	28	31	40	23	2	197	138	335
Pleurisy	—	2	—	1	—	1	—	—	—	7	8	7	4	2	2	—	24	10	34
Pul. Cong., Pul. Apoplexy ...	3	2	—	—	—	1	—	—	—	1	2	4	4	7	4	—	10	18	28
Gangrene of Lung	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

TABLE II.—*continued.*

CAUSE OF DEATH.	AGES.																Males	Fe-males.	Per sons.
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
Asthma	—	—	—	—	—	—	—	—	—	1	1	6	13	7	4	—	16	16	32
Pulmonary Emphysema ...	—	—	—	—	—	—	—	—	—	—	2	—	1	4	2	—	5	4	9
Fibroid Disease of Lung ...	—	—	—	—	—	—	—	—	—	—	—	1	3	3	—	—	7	—	7
Other Dis. of Respiratory System	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	1
V.—DIGESTIVE SYSTEM.																			
Diseases of Teeth and Gums ...	8	1	—	—	—	—	—	—	—	1	—	1	—	—	—	—	8	3	11
Other Dis. of Mouth and Annexa	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	1	2
Diseases of Pharynx, Tonsillitis	1	2	1	3	2	4	1	1	—	—	2	3	—	1	—	—	8	13	21
Diseases of the Œsophagus ...	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	1	1	2
Perforating Ulcer of Stomach ...	—	—	—	—	—	1	—	—	4	10	5	8	6	4	1	—	18	21	39
Inflammation of Stomach ...	61	4	3	3	1	4	1	—	1	—	8	5	6	8	8	2	60	55	115
Other Diseases of Stomach ...	—	—	—	—	—	1	—	—	—	—	—	2	1	1	1	—	3	3	6
Diarrhœa, Enteritis	685	161	27	7	4	9	1	3	3	9	5	13	13	16	9	5	527	443	970
Ankylostomiasis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Intestinal Parasites ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Appendicitis	—	—	—	1	—	8	6	12	4	7	4	3	1	2	—	—	25	23	48
Hernia	1	—	—	—	—	—	—	1	—	2	1	5	6	12	5	1	16	18	34
Intestinal Obstruction	6	1	2	1	—	1	3	—	—	2	1	4	2	8	4	1	13	23	36
Other Diseases of Intestines ...	—	1	—	—	—	—	—	1	—	—	—	1	2	2	—	—	4	3	7
Acute Yellow Atrophy of Liver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hydatid of Liver	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
Cirrhosis of Liver	1	—	—	1	—	—	—	—	—	1	22	41	32	8	2	1	50	59	109
Biliary Calculi	—	—	—	—	—	—	—	—	—	—	1	7	4	4	—	1	4	13	17
Other Diseases of Liver ...	—	—	—	—	—	—	1	—	—	1	2	3	13	8	2	—	10	20	30
Diseases of Spleen	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1
Peritonitis (cause unstated) ...	1	—	1	—	2	1	1	1	—	—	5	2	1	—	—	—	4	11	15
Other Dis. of Digestive System	—	—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	3	1	4
VI.—GENITO-URINARY SYSTEM.																			
Acute Nephritis	1	5	3	3	3	2	3	2	1	6	6	12	4	3	2	—	28	28	56
Bright's Disease	—	1	—	—	—	1	4	—	5	19	44	82	60	80	35	2	188	145	333
Chyluria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Dis. of Kidneys & Annexa	1	1	—	—	—	—	—	—	—	1	2	3	—	1	1	—	3	7	10
Calculi of Urinary Passages ...	—	—	—	—	—	—	—	—	—	—	1	4	—	—	—	—	5	—	5
Diseases of Bladder	1	—	1	—	—	—	—	—	—	—	—	—	8	9	7	2	24	4	28
Diseases of Urethra, etc. ...	1	—	—	—	—	—	—	—	—	—	1	1	2	1	—	—	6	—	6
Diseases of Prostate	—	—	—	—	—	—	—	—	—	—	1	1	3	14	7	2	28	—	28
Diseases of Male Organs ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Uterine Hæmorrhage	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Uterine Tumour	—	—	—	—	—	—	—	—	—	—	1	3	2	3	—	—	—	9	9
Other Diseases of Uterus ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ovarian Cyst, Tumour ...	—	—	—	—	—	—	—	—	—	—	2	1	1	1	3	—	—	8	8
Other Dis. of Female Organs ...	—	—	—	—	—	—	—	—	—	1	3	—	—	—	—	—	—	4	4
Diseases of Breast (non-puer.)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VII.—THE PUERPERAL STATE.																			
Accidents of Pregnancy ...	—	—	—	—	—	—	—	—	1	4	3	—	—	—	—	—	—	8	8
Puerperal Hæmorrhage ...	—	—	—	—	—	—	—	—	1	6	7	—	—	—	—	—	—	14	14
Other Accidents of Childbirth...	—	—	—	—	—	—	—	2	2	2	4	—	—	—	—	—	—	10	10
Puerperal Fever	—	—	—	—	—	—	—	—	9	20	15	—	—	—	—	—	—	44	44
Puerperal Alb'ria & Convulsions	—	—	—	—	—	—	—	—	4	5	—	—	—	—	—	—	—	9	9
Puer. Phleg. Dolens, Embolism	—	—	—	—	—	—	1	—	—	2	4	—	—	—	—	—	—	7	7
Puerperal Insanity	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Diseases of Breast ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VIII.—SKIN & CELLULAR TISSUE.																			
Senile Gangrene	—	—	—	—	—	—	—	—	—	—	—	—	2	7	11	3	11	12	23
Gangrene (other types)... ...	—	—	1	—	—	—	—	—	—	—	—	2	2	—	—	—	3	2	5
Carbuncle, Boil	1	—	—	—	—	—	—	—	—	—	1	4	1	—	1	—	6	2	8
Phlegmon, Acute Abscess ...	4	1	2	—	2	1	1	2	—	—	1	1	3	2	—	—	9	11	20
Dis. of Integumentary System	14	1	1	—	—	—	—	—	—	—	—	2	1	3	2	—	12	12	24

TABLE II.—*continued.*

CAUSE OF DEATH.	AGES.																Males	Fe-males.	Per-sons.
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
IX.—BONES AND ORGANS OF LOCOMOTION.																			
Diseases of Bones	2	1	—	—	1	—	4	1	—	2	—	1	1	—	—	—	10	3	13
Diseases of Joints	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amputations	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Dis. of Locomotor System	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—	—	3	—	3
X.—MALFORMATIONS.																			
Congenital Malformations ...	100	5	1	1	—	—	—	—	1	1	—	—	—	—	—	—	67	42	109
XI.—DISEASES OF EARLY INFANCY.																			
Premature Birth	499	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	278	221	499
Infantile Debility, Icterus, etc.	466	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	281	185	466
Other Diseases of early infancy	71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	45	26	71
Lack of Care (under 3 months)	13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	8	13
XII.—OLD AGE.																			
Old Age	—	—	—	—	—	—	—	—	—	—	—	—	11	145	334	122	259	353	612
XIII.—EXTERNAL CAUSES.																			
Suicide—																			
By Poison	—	—	—	—	—	—	—	—	2	6	11	9	3	1	—	—	22	10	32
By Asphyxia	—	—	—	—	—	—	—	—	1	—	4	1	—	—	—	—	4	2	6
By Hanging, Strangulation...	—	—	—	—	—	—	—	—	—	2	1	6	2	3	—	—	8	6	14
By Drowning	—	—	—	—	—	—	—	3	—	—	—	5	—	2	—	—	7	3	10
By Firearms	—	—	—	—	—	—	—	1	1	—	1	—	—	2	—	—	5	—	5
By Cutting or Piercing ...	—	—	—	—	—	—	—	—	—	4	4	5	6	4	—	—	18	5	23
By Jumping from high place	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	1	1	2
By Crushing	—	—	—	—	—	—	—	—	1	2	1	2	2	—	—	—	8	—	8
Other Suicides	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poisoning by Food	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
Other Acute Poisonings ...	—	—	1	—	—	—	—	—	1	—	—	2	1	—	—	—	3	2	5
Conflagration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Burns (conflagration excepted)	5	11	12	13	5	16	1	—	—	—	—	4	1	1	1	—	36	34	70
Deleterious Gases, Suffocation...	96	—	—	—	—	1	—	—	—	1	—	—	—	2	—	—	50	50	100
Accidental Drowning	—	—	—	2	2	7	4	1	3	3	8	6	3	—	2	—	33	8	41
Injury—																			
By Firearms	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—	—	2	1	3
By Cutting or Piercing ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
By Fall	1	—	—	2	—	—	1	1	—	3	7	6	6	15	19	7	41	27	68
In Mines and Quarries ...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	1
By Machines	—	—	—	—	—	—	—	1	2	1	2	4	1	—	—	—	10	1	11
By Other Crushing	—	2	—	2	2	7	6	2	6	10	7	9	8	4	2	—	51	16	67
By Animals	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	1
Starvation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Excessive Cold	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	1
Effects of Heat...	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	1	1	2
Lightning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Electricity	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Homicide by Firearms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Homicide by Cutting or Piercing	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Homicide by other means ...	—	—	—	—	—	—	—	—	—	2	1	—	—	—	—	—	2	1	3
Fractures (cause not specified)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Violence	2	1	—	1	—	—	3	—	1	3	2	3	—	—	—	—	11	5	16
XIV.—ILL-DEFINED CAUSES.																			
Dropsy	—	—	—	—	—	—	—	—	—	—	1	1	2	—	—	—	1	3	4
Syncope (1 year and under 70)	—	—	—	—	—	1	2	—	—	2	8	8	13	3	—	—	19	18	37
Sudden Death (not defined) ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heart Failure (1 and under 70)	—	1	1	—	—	1	—	1	—	8	8	14	21	15	—	—	37	33	70
Other ill-defined causes ...	4	33	7	3	—	—	—	—	—	1	2	—	—	—	—	—	22	28	50
Cause not specified	4	—	—	—	—	—	—	—	—	—	1	—	1	1	—	—	7	—	7
Totals	3070	837	350	216	142	351	161	185	238	660	1061	1294	1435	1629	1090	243	6727	6235	12962

TABLE III.

Births and Deaths Registered in, or belonging to, each Ward during the Year ending January 3rd, 1914.

Causes of Death.	Acock's Green	All Saints'	Aston	Balsall Heath	Duddeston and Nechells	Edgbaston	Erdington (North)	Erdington (South)	Handsworth	Harborne	King's Norton	Ladywood	Lozells	Market Hall	Moseley and King's Heath	Northfield	Rotton Park	St. Bartholomew's	St. Martin's	St. Mary's	St. Paul's	Saltley	Sandwell	Selly Oak	Small Heath	Soho	Sparkbrook	Sparkhill	Washwood Heath	Yardley	Not Located	City
Enteric Fever	1	...	1	2	1	1	...	...	1	...	1	...	1	1	1	...	...	...	1	4	1	...	...	...	...	2	...	1	...	...	...	20
Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	25	23	13	14	24	6	1	3	3	2	9	17	9	2	4	...	27	50	26	19	7	5	5	20	18	5	25	13	7	8	8	398
Scarlet Fever	5	11	12	5	12	6	2	4	3	...	...	8	5	6	...	3	15	13	12	4	7	2	6	4	15	5	4	2	3	4	1	179
Whooping Cough ...	3	14	12	5	10	...	1	2	4	...	...	5	5	5	...	...	11	17	12	11	14	6	3	...	1	5	4	3	7	2	1	163
Diphtheria, Croup ...	6	7	9	3	10	1	2	...	4	4	6	8	7	4	3	...	10	9	5	4	3	3	6	7	19	4	5	5	10	4	1	169
Influenza	9	7	5	7	2	9	1	2	3	3	2	3	3	1	1	1	7	5	5	6	1	3	2	4	5	2	2	5	4	2	...	112
Erysipelas	...	2	2	2	2	...	1	2	1	...	...	1	...	...	2	1	1	4	...	...	2	1	1	...	...	2	1	...	...	1	...	29
Pulmonary Tuberculosis	20	54	50	49	60	23	4	13	22	13	9	36	35	27	19	3	54	65	92	65	65	21	13	30	28	31	38	18	31	15	38	1041
Tuberculous Meningitis	1	6	8	5	10	3	1	...	3	...	1	7	5	1	...	...	8	4	7	10	3	7	...	2	1	2	4	2	7	5	...	113
Abdominal Tuberculosis	5	5	4	4	21	4	2	3	...	1	2	4	4	6	...	...	2	13	8	5	6	1	1	1	1	...	5	2	11	...	...	121
Other Tuberculous Dis.	2	6	3	1	5	1	2	...	...	...	2	1	3	...	1	...	2	7	1	2	5	2	3	4	2	2	3	1	2	...	3	66
Cancer	24	34	40	49	50	39	13	19	29	14	19	33	39	15	28	2	44	39	48	31	29	33	12	20	36	39	37	29	21	17	11	893
Rheumatic Fever ...	1	3	6	...	2	...	...	...	2	1	2	1	...	2	...	...	3	2	2	2	...	3	...	...	5	1	...	1	2	...	...	41
Meningitis	2	2	5	7	22	1	1	3	3	...	2	2	4	6	2	1	6	7	9	9	6	7	1	5	4	1	9	3	3	1	...	134
Organic Dis. of Heart...	25	62	75	50	70	29	23	14	20	20	15	32	45	24	16	10	44	50	57	56	45	27	21	34	29	32	37	23	39	9	10	1053
Bronchitis	12	44	62	46	90	31	10	4	15	8	8	33	46	23	10	4	52	94	110	84	44	27	9	18	20	33	37	4	38	13	15	1041
Pneumonia	43	51	48	37	65	30	6	9	10	9	14	53	28	38	24	4	49	81	52	70	46	22	11	16	28	25	41	8	41	5	21	988
Other Respiratory Dis.	1	10	6	4	8	3	...	2	6	2	1	4	4	6	2	1	2	11	6	11	10	5	2	6	6	2	4	2	4	3	4	138
Diarrhœa & Enteritis :																																
Under 2 years ...	8	51	61	16	100	12	7	4	9	6	5	46	22	15	3	2	59	73	72	96	58	25	4	5	15	9	20	2	25	6	10	846
Two years and over ...	3	6	6	7	11	4	...	5	1	1	1	3	4	4	4	...	6	8	6	7	4	4	1	2	1	2	4	2	6	3	8	124
Appendicitis, Typhlitis	1	2	3	...	5	4	...	1	2	2	...	1	1	1	1	1	4	...	2	4	2	2	1	1	2	1	...	1	2	1	...	48
Cirrhosis of Liver ...	2	6	8	7	4	8	1	1	2	1	...	2	6	5	1	2	4	...	15	1	5	3	3	4	1	5	6	1	3	1	1	109
Alcoholism	...	3	...	1	1	...	...	...	...	1	...	...	3	1	...	...	...	1	...	4	1	...	...	1	2	...	...	2	1	...	...	22
Nephritis & Bright's Dis	8	12	15	18	24	16	2	3	7	8	8	22	13	6	9	3	29	19	23	23	21	10	3	7	9	12	23	8	8	8	12	389
Puerperal Fever ...	1	...	4	1	1	1	1	...	2	1	...	2	1	3	3	...	5	...	1	1	2	3	...	2	1	1	3	...	3	1	...	44
Other Accidents & Diseases of Pregnancy and Parturition	3	2	2	3	2	2	...	...	...	1	2	1	5	2	1	1	3	2	3	...	2	...	1	1	2	3	...	1	1	2	...	48
Congenital Debility and Malformation, Premature Birth	34	55	74	27	95	26	12	16	15	10	14	42	26	23	16	7	58	70	85	89	49	34	19	22	27	24	27	10	37	13	18	1074
Other Diseases peculiar to Infancy	1	4	2	6	3	4	...	2	2	...	2	2	1	...	...	2	2	8	1	4	1	2	1	7	2	2	3	1	3	2	1	71
Accidents or Negligence	13	18	18	19	32	9	3	2	6	3	8	20	15	11	4	2	17	24	27	33	22	5	4	14	13	7	11	3	14	6	8	391
Suicides...	...	9	2	4	6	7	2	1	2	3	2	4	2	2	3	...	3	2	6	7	6	4	1	1	6	5	4	1	4	...	1	100
Other Defined Diseases	62	125	129	105	131	135	46	41	78	40	43	107	108	76	68	18	142	162	163	139	132	82	47	81	86	109	125	58	104	24	60	2826
Deaths from Ill-defined Causes...	3	9	7	6	13	3	2	2	1	3	3	16	3	4	3	...	11	15	15	6	12	3	...	3	7	2	4	2	4	2	4	168
TOTAL DEATHS ...	324	646	692	510	892	418	146	158	256	157	181	516	453	320	229	68	680	855	872	807	611	352	181	322	392	375	486	214	415	158	246	12962
DEATHS UNDER 1 YEAR	78	163	185	93	287	60	25	31	37	20	40	117	83	67	28	11	161	262	239	270	158	79	34	59	82	64	93	24	115	28	44	3070
BIRTHS	764	1314	1362	942	1605	551	368	380	540	371	511	925	826	432	470	174	1200	1281	1328	1179	977	839	430	723	726	615	946	399	1009	419	206	23812

TABLE IV.

Deaths under 1 year Registered in, or belonging to, each Ward during the Year ending January 3rd, 1914.

Causes of Death.	Acock's Green.	All Saints'.	Aston.	Balsall Heath.	Duddeston and Nechells.	Edgbaston.	Erdington (North)	Erdington (South)	Handsworth.	Harborne.	King's Norton.	Ladywood.	Lozells.	Market Hall.	Moseley and King's Heath.	Northfield.	Rotton Park.	St. Bartholomew's.	St. Martin's.	St. Mary's.	St. Paul's.	Saltley.	Sandwell.	Selly Oak.	Small Heath.	Soho.	Sparkbrook.	Sparkhill.	Washwood Heath.	Yardley.	Not Located.	City.
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken Pox	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2
Measles	4	4	...	4	4	1	...	...	1	...	3	6	1	...	...	...	4	8	6	3	1	1	...	5	5	...	4	5	1	3	2	76
Scarlet Fever	...	...	1	...	1	1	...	...	...	...	...	1	...	...	...	...	2	...	...	1	...	...	...	...	1	...	...	...	...	...	...	8
Whooping Cough ...	1	4	6	2	4	...	1	1	1	...	...	3	2	1	...	...	5	9	6	5	6	2	2	...	1	3	2	2	1	...	1	71
Diphtheria and Croup	...	...	1	1	1	...	...	...	...	...	...	2	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	8
Erysipelas	...	1	...	1	1	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...	...	1	1	...	...	...	1	...	...	...	...	9
Tuberculous Meningitis	...	...	3	1	4	...	...	...	...	...	...	3	1	2	...	...	1	1	2	2	...	1	...	...	...	...	...	...	1	...	...	22
Abdominal Tuberculosis	2	1	1	2	11	1	1	1	...	1	1	3	1	3	...	...	1	7	4	2	2	...	...	...	...	...	...	1	7	...	...	53
Other Tuberculous Diseases	...	4	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	1	2	...	...	1	...	...	...	...	...	...	...	10
Meningitis (not Tuberculous)	...	...	2	4	10	1	...	...	2	...	1	1	2	4	1	1	2	3	2	2	3	4	...	1	1	...	2	...	1	1	...	51
Convulsions	5	6	12	4	6	1	1	2	1	...	3	4	7	1	...	...	4	22	12	13	9	3	3	5	5	5	11	1	5	...	...	151
Laryngitis	...	...	...	...	1	1	...	...	...	...	1	...	...	1	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	...	...	7
Bronchitis	2	10	13	11	18	3	1	...	2	1	2	8	5	2	...	...	13	27	30	22	9	5	...	3	8	7	7	...	12	2	1	224
Pneumonia (all forms)	15	20	9	5	21	8	1	4	1	1	5	14	9	12	4	...	10	27	19	16	11	4	2	2	8	5	9	...	8	...	6	256
Diarrhœa	2	17	20	7	26	3	3	...	3	1	...	11	9	4	...	1	12	29	25	37	23	14	1	...	7	2	5	1	6	1	1	271
Enteritis	6	28	28	9	58	4	3	3	6	5	4	25	10	9	4	...	37	25	25	36	22	5	3	5	7	6	12	1	16	5	7	414
Gastritis	1	...	5	2	6	...	...	...	1	...	...	4	1	...	1	...	1	5	2	14	1	...	...	...	4	5	3	...	5	...	...	61
Syphilis	...	1	2	...	2	2	...	1	3	...	...	3	1	1	1	...	1	1	3	5	5	1	...	1	...	1	1	...	...	...	1	37
Rickets	1	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	3	1	1	...	...	...	...	...	...	...	...	1	...	...	10
Suffocation, Overlying	...	4	2	2	9	2	...	...	...	...	...	7	6	1	...	...	6	10	9	11	9	1	...	3	...	2	1	...	6	...	...	91
Injury at Birth ...	1	1	2	...	...	1	...	2	2	...	...	1	1	...	...	1	1	2	...	...	1	1	...	...	...	1	...	...	1	1	1	21
Atelectasis	...	2	...	6	3	1	...	...	...	...	2	1	...	...	...	1	1	6	1	3	...	1	...	7	3	1	3	1	2	1	...	46
Congenital Malformations	6	3	8	6	4	4	...	1	4	...	...	2	2	2	3	1	5	2	5	11	4	5	1	1	3	4	3	1	4	2	3	100
Premature Birth ...	18	35	33	12	34	16	10	10	5	7	7	15	14	13	10	5	30	30	38	37	14	16	8	13	15	10	14	4	16	5	5	499
Atrophy, Debility, and Marasmus	10	16	30	8	54	4	2	4	5	3	7	24	9	6	3	1	17	36	41	39	27	12	10	7	8	10	9	5	17	5	10	439
Other causes	4	6	7	5	8	6	2	2	...	1	3	6	1	4	1	...	9	8	7	8	9	2	3	5	6	2	6	2	3	1	6	133
Totals	78	163	185	93	287	60	25	31	37	20	40	147	83	67	28	11	164	262	239	270	158	79	34	59	82	64	93	24	115	28	44	3070

TABLE V.

Cases of Infectious Disease notified during each week of the year 1913.

Week.		Enteric Fever.	Smallpox.	Scarlet Fever.	Diphtheria.	Erysipelas.	Pulmonary Tuberculosis.	Tubercular Meningitis.	Tuberculosis of Peritoneum and Intestines.	Tuberculosis of Spinal Column.	Tuberculosis of Joints.	Tuberculosis of other Organs.	Disseminated Tuberculosis.	Cerebro-Spinal Fever.	Poliomyelitis	Puerperal Fever.	Ophthalmia Neonatorum.	Total.
Number.	Ending.																	
	1913.																	
1	January 4	4	—	140	14	15	54	—	—	—	—	—	—	—	—	—	5	232
2	,, 11	3	—	143	12	20	69	—	—	—	—	—	—	—	—	2	4	253
3	,, 18	3	—	124	14	12	76	—	—	—	—	—	—	—	1	4	3	237
4	,, 25	5	—	143	9	9	72	—	—	—	—	—	—	—	—	—	1	239
5	February 1	3	—	123	20	16	98	—	—	—	1	5	—	—	—	4	3	273
6	,, 8	3	—	142	19	19	140	5	9	5	25	34	—	1	—	4	2	408
7	,, 15	2	—	138	17	9	121	2	10	33	32	26	—	—	—	5	—	395
8	,, 22	—	—	102	14	14	105	—	4	1	4	16	1	—	—	1	8	270
9	March 1	—	—	143	23	19	131	—	12	5	13	34	—	—	—	2	4	386
10	,, 8	—	—	127	21	14	110	1	7	1	1	30	—	—	—	2	3	317
11	,, 15	1	—	121	22	14	105	2	3	1	2	24	1	—	—	3	8	307
12	,, 22	1	—	141	12	9	73	1	3	—	—	11	1	—	—	—	7	259
13	,, 29	—	—	116	17	14	71	5	7	—	2	4	1	—	—	—	5	242
14	April 5	2	—	110	6	11	88	1	8	—	1	21	1	—	—	—	6	255
15	,, 12	—	—	116	9	16	95	3	2	1	2	14	—	—	—	1	3	262
16	,, 19	3	—	139	10	15	85	—	2	—	1	12	2	—	—	3	4	276
17	,, 26	4	—	155	13	14	99	—	7	—	4	7	—	—	—	3	2	308
18	May 3	3	—	104	15	15	95	1	5	2	3	13	1	—	1	2	9	269
19	,, 10	4	—	130	16	11	108	2	1	2	3	17	1	—	—	2	—	297
20	,, 17	—	—	107	13	12	67	1	1	1	1	8	1	1	—	—	12	225
21	,, 24	—	—	120	13	11	79	3	3	—	2	13	1	—	1	4	2	252
22	,, 31	2	—	118	15	7	70	2	2	—	1	9	2	—	—	3	5	236
23	June 7	1	—	109	10	16	94	—	3	2	1	8	—	—	—	—	3	247
24	,, 14	1	—	115	9	6	87	3	3	2	1	5	—	—	—	—	6	238
25	,, 21	1	—	132	14	14	83	2	1	—	1	17*	—	—	—	1	12	278
26	,, 28	1	—	134	10	17	96	—	4	—	—	6	—	—	2	3	1	274
27	July 5	—	—	147	14	14	86	—	2	3	—	7	—	—	—	2	—	275
28	,, 12	—	—	168	25	7	67	—	1	—	—	8	—	—	—	1	5	282
29	,, 19	3	—	196	12	13	77	1	4	1	3	11	1	—	—	4	1	327
30	,, 26	1	—	187	24	18	98	1	1	—	1	4	1	—	—	2	5	343
31	August 2	—	—	179	12	16	70	—	3	1	1	7	—	1	—	1	2	293
32	,, 9	1	—	123	14	11	51	—	2	1	—	1	—	—	3	1	1	209
33	,, 16	1	—	133	15	12	73	1	4	—	—	7	—	—	1	3	4	254
34	,, 23	4	—	139	11	13	63	1	5	3	1	2	—	—	1	5	—	248
35	,, 30	1	—	155	14	13	65	1	3	1	2	5	—	—	1	1	2	264
36	September 6	2	—	168	19	15	54	—	8	1	1	8	—	—	2	1	2	281
37	,, 13	—	—	191	21	13	81	1	3	—	3	6	—	1	—	4	14	338
38	,, 20	4	—	186	34	17	72	1	4	1	—	7	—	—	—	2	4	332
39	,, 27	4	—	227	21	21	62	2	2	1	—	6	—	—	—	1	5	352
40	October 4	—	—	217	24	15	64	1	3	2	2	6	—	—	2	—	3	339
41	,, 11	2	—	179	25	19	51	1	7	3	2	1	1	—	1	1	4	297
42	,, 18	1	—	268	26	18	66	2	4	—	—	4	—	—	—	1	3	393
43	,, 25	4	—	268	30	17	83	2	4	2	1	2	1	—	—	—	5	419
44	November 1	4	—	256	27	17	75	—	2	1	—	4	1	—	1	1	3	392
45	,, 8	7	—	203	20	26	81	3	8	1	2	6	—	—	1	4	3	365
46	,, 15	3	—	261	19	26	79	1	5	—	3	4	—	—	—	4	5	410
47	,, 22	2	—	211	23	22	67	—	6	2	—	11	2	—	—	3	7	356
48	,, 29	4	—	210	30	23	87	3	2	—	1	2	—	—	—	2	4	368
49	December 6	—	—	205	29	21	81	1	3	1	2	4	1	—	—	6	4	358
50	,, 13	3	—	177	35	14	58	—	2	—	—	6	2	—	—	6	5	308
51	,, 20	1	—	183	39	13	65	1	4	2	—	8	1	—	—	2	7	326
52	,, 27	1	—	158	27	14	40	—	3	1	—	3	—	1	—	1	4	253
	1914.																	
53	January 3	2	—	160	34	27	42	1	3	—	—	4	1	—	—	4	2	280
	Total ...	102	—	8447	991	804	4229	59	195	84	126	478	25	5	18	112	222	15897

TABLE VI.

Cases of Infectious Disease notified during the Year 1913. Classified according to ages.

Disease.	Ages.																Totals.
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35	45-	55-	65-	75-	85-	
Enteric Fever	...	...	...	1	...	7	15	18	11	26	12	11	1	...	...	...	102
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	61	209	465	652	750	3764	1552	457	209	226	92	6	3	1	...	...	8147
Diphtheria	13	37	64	77	81	396	125	52	51	62	23	5	5	...	...	...	991
Erysipelas	21	10	10	11	4	25	22	50	25	118	175	145	102	64	20	2	804
Pulmonary Tuberculosis ...	8	15	14	11	23	341	320	326	514	1076	843	453	198	68	16	3	4229
Tuberculous Meningitis ...	10	16	8	8	...	13	2	...	...	1	1	...	...	...	...	...	59
Tuberculosis of Peritoneum and Intestines	82	33	17	18	5	17	9	1	1	8	3	...	1	...	...	...	195
Tuberculosis of Spinal Column	...	...	3	4	7	23	19	7	5	10	2	2	1	1	...	...	84
Tuberculosis of Joints ...	1	...	5	3	7	41	23	15	8	13	4	3	1	2	...	...	126
Tuberculosis of Other Organs	3	10	16	14	22	146	114	45	28	42	14	12	8	3	1	...	478
Disseminated Tuberculosis ...	3	6	2	1	1	5	3	...	2	1	1	...	...	...	...	...	25
Cerebro-Spinal Fever ...	3	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	5
Poliomyelitis	2	3	3	5	1	1	...	2	...	1	...	...	...	...	...	...	18
Puerperal Fever	...	...	...	...	...	...	...	2	23	62	24	1	...	...	...	...	112
Ophthalmia Neonatorum ...	221	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	222
Total	428	339	607	805	902	4779	2204	976	877	1647	1194	638	320	139	37	5	15897

TABLE VII.

Cases of Infectious Disease notified during the Year 1913. Classified according to Wards.

DISEASE.	Acock's Green.	All Saints.	Aston.	Balsall Heath.	Duddeston and Nechells.	Edgbaston	Erdington North.	Erdington South.	Handsworth.	Harborne.	King's Norton.	Ladywood.	Lozells.	Market Hall.	Moseley and King's Heath.	Northfield.	Rotton Park.	St. Bartholomew's.	St. Martin's and Deritend.	St. Mary's.	St. Paul's.	Saltley.	Sandwell.	Selly Oak.	Small Heath.	Soho.	Sparkbrook.	Sparkhill.	Washwood Heath.	Yardley.	Not located.	City.
Enteric Fever	6	3	8	7	6	5	1	1	2	2	12	2	6	1	3	1	5	3	3	5	3	...	...	2	3	2	2	3	...	3	2	102
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	321	400	518	381	276	251	118	203	365	98	317	237	313	171	105	48	337	331	417	203	227	309	252	199	413	286	397	162	390	222	180	8447
Diphtheria	81	35	38	37	18	32	4	10	35	18	48	53	26	18	22	5	53	31	29	16	16	25	15	40	78	27	39	32	33	35	42	991
Erysipelas	17	49	48	25	60	18	16	6	18	9	21	36	29	14	22	2	40	64	19	49	36	22	13	30	23	10	21	11	33	19	24	804
Pulmonary Tuberculosis	113	219	203	235	269	136	19	41	75	46	61	183	111	122	73	9	191	379	337	234	156	142	32	78	145	73	183	85	124	59	96	4229
Tubercular Meningitis	1	3	4	3	7	...	...	1	...	...	...	4	3	1	2	...	3	1	3	3	2	...	...	2	1	1	3	2	5	4	...	59
Tuberculosis of Peritoneum and Intestines	1	14	3	8	29	9	...	2	...	...	2	14	2	19	...	...	6	12	17	8	6	9	4	1	3	2	5	2	14	1	2	195
Tuberculosis of Spinal Column	...	3	5	1	6	2	1	1	5	2	...	4	4	4	2	...	1	2	2	8	12	1	...	2	2	2	4	2	2	1	3	84
Tuberculosis of Joints	3	5	6	5	5	3	1	...	2	...	2	5	6	2	1	1	5	10	6	11	4	4	2	4	5	4	5	3	6	3	7	126
Tuberculosis of Other Organs	14	33	10	15	25	20	12	6	11	11	10	26	36	15	9	...	13	16	16	25	22	18	9	10	27	8	19	8	17	10	7	478
Disseminated Tuberculosis	...	2	2	...	...	...	...	...	1	...	...	1	1	1	...	...	1	2	1	1	2	1	...	6	2	1	...	...	...	...	...	25
Cerebro-Spinal Fever	...	2	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	5
Poliomyelitis	...	2	3	...	...	...	...	...	...	...	...	...	2	...	...	...	3	...	...	...	...	2	...	2	2	...	1	...	1	...	...	18
Puerperal Fever ...	5	2	7	8	12	3	1	1	2	2	1	4	5	3	2	...	8	3	3	1	7	7	...	...	4	4	4	1	6	5	1	112
Ophthalmia Neonatorum	3	21	9	8	26	1	1	2	...	4	2	14	4	4	...	1	14	11	13	23	20	1	2	6	9	4	8	3	4	4	...	222
Total	565	793	864	733	739	480	174	275	516	192	476	583	548	375	242	67	680	865	866	587	513	541	329	382	717	424	692	314	635	366	364	15897

TABLE VIII.

Temperature of the Air and Ground, Rainfall, Sunshine, and Wind, in each Month of the Year 1913.
Observed at the Birmingham and Midland Institute Observatory, Edgbaston,
by Mr. Alfred Cresswell.

MONTH.	TEMPERATURE OF THE AIR.						TEMPERATURE OF THE GROUND.		HOURS OF SUNSHINE.		RAINFALL IN INCHES.		DAYS ON WHICH 0·01 INCH OR MORE OF RAIN FELL.	MILES OF WIND.	
	Highest in the shade.		Lowest in the shade.		Mean for the Month.										
	1913.	Above or below the previous highest. *	1913.	Above or below the previous lowest. *	1913.	Above or below the average. *	Maximum at 1 foot deep.	Maximum at 4 feet deep.	1913.	Above or below the average. *	1913.	Above or below the average. *		1913.	Above or below the average. *
JAN....	50·2	— 7·8	26·0	+ 15·2	39·6	+ 1·4	45·1	46·3	28	— 6	3·62	+ 1·81	22	9827	— 219
FEB.	56·7	— 5·2	26·5	+ 18·5	40·6	+ 2·2	43·9	44·6	47	— 4	0·80	— 0·75	11	9424	— 91
MAR.	55·6	— 1·0	26·0	+ 7·0	42·3	+ 1·3	43·5	44·0	103	+ 16	4·30	+ 2·42	17	12103	+1663
APR.	62·6	— 16·4	31·3	+ 4·6	45·2	— 0·1	47·8	45·3	76	— 40	3·55	+ 2·08	16	11319	+1898
MAY...	78·2	— 0·4	35·0	+ 4·0	52·3	+ 0·8	55·0	48·6	145	+ 6	2·25	+ 0·18	15	9222	+ 199
JUNE	77·7	— 5·1	43·0	+ 5·4	57·3	+ 0·1	59·0	51·1	160	+ 15	1·42	— 0·81	9	8714	+ 431
JULY	75·9	— 12·6	45·6	+ 6·1	58·1	— 2·0	57·5	52·2	77	— 69	1·54	— 0·61	9	7398	— 928
AUG.	79·4	— 14·5	43·0	+ 1·8	59·6	+ 0·4	59·0	54·0	127	— 14	1·04	— 1·93	11	6821	–1767
SEPT.	76·5	— 14·1	41·6	+ 8·6	57·2	+ 1·7	57·2	54·0	99	— 13	1·93	+ 0·24	17	7926	— 23
OCT....	63·8	— 12·7	34·8	+ 6·9	51·6	+ 3·2	55·5	53·8	75	+ 5	2·97	+ 1·22	17	8050	— 955
NOV.	57·1	— 4·5	31·2	+ 11·2	46·5	+ 3·7	49·0	51·2	70	+ 35	2·26	+ 0·06	14	9996	+ 705
DEC.	52·0	— 4·8	24·5	+ 10·1	40·5	+ 1·5	48·0	49·0	15	— 12	1·30	— 1·34	11	10772	+ 203

* In the twenty-six years 1887-1912.

TABLE IX.

Meteorology and Mortality in each week of the year 1913.

WEEK.		Total Deaths.	Deaths under 1 year.	Deaths 65 and up.	DEATHS FROM						TEMPERATURE				Horizontal Movement of Air in Miles	Hours of Sunshine.	Rainfall in Inches.
											of the Air.			of Ground			
No.	Ending.				Measles.	Whooping Cough.	Diarrhœa and Enteritis under 2.	Pulmonary Tuberculosis.	Other Forms of Tuberculosis.	Respiratory Diseases.	Highest in Shade.	Lowest in Shade.	Mean of Daily Maxima and Minima.	Highest 4 Feet Deep.			
1	Jan. 4	294	71	60	40	—	7	12	5	61	48·2	34·5	42·5	46·3	2,524	5·5	1·15
2	,, 11	273	69	46	30	1	5	20	3	56	49·0	31·5	41·6	46·1	2,791	1·9	1·02
3	,, 18	280	52	70	28	1	4	24	4	53	42·5	26·0	35·5	46·0	1,691	14·6	0·27
4	,, 25	264	45	76	21	1	6	17	5	60	50·2	29·6	39·0	44·9	2,469	0·1	0·90
5	Feb. 1	288	54	76	11	2	5	30	5	58	48·0	30·0	37·9	44·3	1,878	8·5	0·65
6	,, 8	266	55	64	7	1	7	24	6	61	50·9	32·7	44·0	44·1	3,517	8·1	0·25
7	,, 15	285	59	73	9	2	7	23	6	78	56·7	33·4	43·8	44·6	1,429	14·9	0·41
8	,, 22	293	65	69	14	2	6	27	8	64	43·2	27·4	35·2	44·4	2,673	18·6	0·02
9	Mar. 1	287	64	72	28	2	6	22	5	67	49·8	26·5	39·9	43·9	1,882	6·5	0·13
10	,, 8	285	51	75	25	1	5	32	4	50	55·6	33·0	44·6	43·9	2,376	26·9	0·40
11	,, 15	254	68	58	27	—	6	29	4	42	54·1	32·4	42·9	44·0	2,774	17·3	1·38
12	,, 22	256	40	63	18	—	3	34	9	36	47·2	31·9	38·7	44·0	3,057	24·8	1·85
13	,, 29	267	57	69	17	4	6	18	1	46	53·3	34·8	42·8	43·6	2,018	20·8	0·52
14	April 5	227	42	54	11	—	4	16	12	44	53·7	33·2	44·6	44·0	2,738	20·0	0·38
15	,, 12	241	43	62	13	2	3	24	6	51	48·2	32·0	41·2	44·0	2,686	6·9	0·58
16	,, 19	264	44	73	4	3	1	31	8	50	53·2	31·3	43·2	44·0	2,756	28·3	0·79
17	,, 26	226	43	50	14	3	—	22	5	43	62·6	35·0	48·9	45·0	2,086	24·1	0.67
18	May 3	211	46	50	9	5	4	18	6	37	59·8	39·0	49·0	45·8	2,099	12·2	1·98
19	,, 10	225	38	78	9	4	2	16	7	42	58·6	35·0	47·6	46·0	2,160	14·7	1·05
20	,, 17	211	51	51	7	4	3	21	8	37	62·6	38·3	51·2	46·6	2,263	46·3	0·05
21	,, 24	225	38	59	9	3	2	18	5	30	67·4	37·4	51·9	47·0	2,346	35·2	0·10
22	,, 31	224	32	60	3	3	3	22	5	41	78·2	46·2	61·3	48·6	1,843	48·8	0·32
23	June 7	210	36	53	5	—	4	19	7	31	70·6	43·0	56·2	49·7	1,975	52·4	0·49
24	,, 14	196	36	39	4	4	4	20	5	39	66·4	43·0	54·5	49·9	2,332	35·4	0·76
25	,, 21	204	39	40	1	5	5	21	7	24	77·7	48·4	61·2	50·8	1,390	45·4	0·06
26	,, 28	193	29	48	1	7	6	21	4	19	68·3	48·1	56·7	51·1	2,510	26·1	0·11
27	July 5	192	29	45	3	—	7	21	9	29	73·1	50·5	44·6	51·6	1,583	19·9	0·10
28	,, 12	185	46	36	2	5	7	11	1	24	66·2	45·6	41·2	51·7	1,373	12·4	1·28
29	,, 19	201	41	50	1	4	10	12	2	31	67·6	48·9	43·2	51·9	1,851	5·8	0·10
30	,, 26	217	54	34	2	6	15	19	4	20	69·4	47·5	48·9	51·9	2,037	28·1	0·06
31	Aug. 2	231	54	48	2	2	12	23	4	29	75·9	49·0	49·0	52·6	1,440	37·9	0·00
32	,, 9	228	58	48	3	2	19	17	5	35	79·4	43·0	47·6	53·2	1,500	32·0	0·11
33	,, 16	255	75	63	—	2	36	14	3	36	72·6	47·5	51·2	53·2	1,385	12·6	0·30
34	,, 23	237	79	46	1	1	38	15	6	27	71·5	46·0	51·9	53·6	1,930	26·8	0·31
35	,, 30	265	110	48	1	1	64	15	4	25	76·6	47·2	61·3	53·9	1,396	39·1	0·30
36	Sept. 6	256	76	42	—	3	60	16	6	28	66·0	47·5	56·2	54·0	2,367	10·0	0·44
37	,, 13	264	117	36	—	3	77	21	3	30	69·3	42·6	54·5	53·8	1,709	23·1	0·14
38	,, 20	270	88	47	1	9	74	15	4	18	64·2	41·6	61·2	53·4	1,687	20·2	0·85
39	,, 27	282	98	54	—	2	65	15	2	35	76·5	50·2	56·7	53·2	1,550	19·7	0·50
40	Oct. 4	230	70	46	1	2	46	20	5	23	70·5	49·6	57·8	53·8	1,905	15·0	0·25
41	,, 11	240	80	38	1	4	42	14	8	32	57·6	44·8	51·6	53·7	1,596	4·9	1·88
42	,, 18	241	74	43	1	3	34	17	13	26	60·8	41·9	51·7	53·0	1,710	25·3	0·14
43	,, 25	251	77	58	—	1	34	20	8	32	61·4	34·8	48·8	52·4	1,592	24·5	0·00
44	Nov. 1	249	71	48	1	3	26	21	6	49	59·4	40·6	51·0	51·7	2,362	21·1	0·70
45	,, 8	255	60	53	2	3	11	17	9	47	57·1	36·6	46·7	51·2	2,137	26·2	0·29
46	,, 15	257	69	52	3	3	16	16	6	55	54·6	37·2	47·0	50·6	2,307	19·8	1·55
47	,, 22	215	47	52	2	7	9	12	7	31	56·1	37·3	47·1	50·0	2,862	7·7	0·39
48	,, 29	243	57	65	—	5	10	13	6	31	56·8	31·2	45·1	49·6	2,082	18·4	0·03
49	Dec. 6	209	50	47	—	3	7	15	6	46	52·2	32·7	43·7	49·0	2,691	2·3	0·85
50	,, 13	234	49	54	2	8	1	19	5	43	52·0	36·1	44·4	48·7	2,238	3·6	0·09
51	,, 20	239	53	61	—	6	5	22	2	39	51·3	37·3	42·2	48·0	2,340	2·8	0·00
52	,, 27	256	50	73	1	6	5	17	8	47	49·7	32·3	38·9	47·9	2,532	6·9	0·24
	1914.																
53	Jan. 3	311	71	87	3	9	2	23	8	82	46·4	24·5	34·4	46·9	2,341	6·6	0·11

TABLE X.

Analysis of Water Supply by the City Analyst.

Date of Receipt of Sample.	Place where taken.	Parts per 100,000.								Appearance in 2ft. Tube.			
		Total Solid Matter.	Free Ammonia.	Albuminoid or Organic Ammonia.	Nitrogen in Nitrates.	Oxygen Consumed in 3 hours, at 27° C. (80° F.)	Chlorine in Chlorides.	Hardness (as $CaCO_3$).	Alkalinity (as $CaCO_3$)	Turbidity.*	Red.†	Yellow.†	Blue.†
1913.	CORPORATION WATER.												
Jan. 20	40 Melville Road, Edgbaston	6·0	·000	·004	0	·17	0·8	3·4	2·6	0	0·8	4·0	0
" 20	98 Somerville Road ...	6·0	·000	·003	0	·17	0·8	3·5	2·6	0	1·0	4·0	0
" 20	120 Gt. Lister Street ...	5·9	·000	·003	0	·17	0·8	3·5	2·6	0	0·8	4·0	0
Feb. 17	10 Barnsley Road... ...	6·0	·000	·004	0	·17	0·8	3·6	2·7	0	0·8	4·0	0
" 17	126 Gladstone Road, Sparkhill	6·0	·000	·004	0	·17	0·8	3·5	2·7	0	0·6	3·8	0
" 17	Bk. 31 Little Francis Street	5·8	·000	·003	0	·18	0·8	3·5	2·7	0	0·8	4·0	0
Mar. 11	377 City Road	6·0	·000	·004	0	·15	0·8	3·6	2·5	0	0·6	4·0	0
" 11	23 Eversley Road	6·0	·000	·004	0	·17	0·8	3·5	2·5	0	0·6	3·8	0
" 11	Bk. 67 Bromsgrove Street...	5·8	·000	·003	0	·15	0·8	3·6	2·6	0	0·6	3·8	0
April 14	169 Court Oak Road ...	6·1	·000	·003	0	·13	0·8	3·5	2·5	0	0·4	3·0	0
" 14	Bk. 14 Cattell Road ...	6·0	·000	·003	0	·12	0·8	3·6	2·6	0	0·4	2·8	0
" 14	13A Sun Street	5·8	·000	·004	0	·12	0·8	3·5	2·6	0	0·2	2·8	0
May 16	34 Augustus Road... ...	6·0	·000	·004	0	·14	0·8	3·5	2·7	0	0·2	2·0	0
" 16	192 Tiverton Road ...	6·1	·000	·003	0	·12	0·8	3·6	2·8	0	0·2	2·0	0
" 16	9A Barn Street	5·9	·000	·003	0	·13	0·8	3·5	2·7	0	0·2	2·2	0
June 9	19 Stirling Road	5·9	·000	·002	0	·13	0·8	3·5	2·7	0	0·2	2·0	0·2
" 9	3 Stafford Road	6·0	·000	·003	0	·12	0·8	3·6	2·7	0	0·2	2·2	0
" 9	185 Dollman Street ...	5·9	·000	·003	0	·12	0·8	3·5	2·7	0	0·2	2·0	0
July 7	74 Sandon Road	5·7	·000	·004	0	·13	0·8	3·5	2·6	0	0·2	2·0	0
" 7	20 Boulton Road (Aston Well water present) ...	7·6	·000	·003	0	·12	0·9	3·6	3·1	0	0·2	2·0	0
" 7	14 Ellesmere Road ...	5·7	·000	·003	0	·12	0·8	3·5	2·6	0	0·2	2·2	0
Aug. 18	17 Wyndham Road ...	5·8	·000	·003	0	·13	0·7	3·5	2·5	0	0·2	2·2	0
" 18	182 Somerville Road ...	6·0	·000	·004	0	·14	0·8	3·5	2·6	0	0·0	2·0	0
" 18	Bk. 4 Rea Street	5·8	·000	·004	0	·12	0·7	3·5	2·5	0	0·2	2·0	0
Sept. 15	5 Clarendon Road... ...	5·8	·000	·003	0	·13	0·8	3·6	2·4	0	0·2	2·4	0
" 15	107 Gladstone Road ...	5·8	·000	·002	0	·13	0·8	3·5	2·5	0	0·0	2·2	0
" 15	235 Barford Street ...	5·7	·000	·002	0	·11	0·8	3·5	2·5	0	0·0	2·0	0
Oct. 14	6 Beaufort Road	5·8	·000	·005	0	·13	0·8	3·4	2·4	0	0·6	4·0	0
" 14	Ridgacre Lane, Quinton ...	6·0	·000	·003	0	·13	0·8	3·5	2·5	0	0·8	4·4	0
" 14	125 Aubrey Road... ...	5·8	·000	·003	0	·14	0·8	3·5	2·4	0	0·6	4·0	0
" 14	9A Lawley Street	5·7	·000	·004	0	·14	0·8	3·5	2·4	0	0·6	3·8	0
Nov. 17	90 Vivian Road	5·8	·000	·003	0	·14	0·8	3·5	2·2	0	0·8	5·4	0
" 17	14 Murdock Road... ...	5·8	·000	·003	0	·13	0·8	3·5	2·4	0	0·6	5·0	0
" 17	39 Highfield Road... ...	5·8	·000	·002	0	·14	0·8	3·5	2·4	0	0·6	4·8	0
Dec. 9	Lorelei, Norfolk Road ...	6·0	·000	·004	0	·17	0·8	3·4	2·4	0	1·0	5·0	0
" 9	11 Highfield Road ...	5·8	·000	·004	0	·17	0·8	3·5	2·5	0	1·0	5·0	0
" 9	183 Vauxhall Road ...	5·8	·000	·002	0	·17	0·8	3·5	2·4	0	0·8	5·0	0
	SOUTH STAFFORDSHIRE WATER.												
Jan. 20	Meadow Road, Quinton ...	34·8	·000	·003	0·4	·05	2·5	17·9	15·2	0	0	0·8	0·6
Feb. 17	High Street, Quinton ...	34·0	·000	·005	0·4	·08	2·5	18·3	15·0	0	0	1·2	0·6
Mar. 11	College Street, Quinton ...	34·6	·000	·003	0·4	·07	2·6	18·2	14·9	0	0	1·2	0·8
April 14	Ridgacre Road, Quinton ...	34·2	·000	·004	0·4	·08	2·6	18·5	14·8	0	0	1·0	0·6
May 16	High Street, Quinton ...	35·2	000	·004	0·3	·08	2·5	18·6	15·2	0	0	1·2	0·6
June 9	Parkside, Meadow Road, Quinton	32·6	·000	·004	0·3	·08	2·5	18·2	14·0	0	0	1·4	0·6
July 7	Corner of High Street and Hagley Road, Quinton ...	33·8	·000	·005	0·3	·07	2·6	18·3	14·8	0	0	0·8	0·8
Aug. 18	Post Office, Hagley Road, Quinton	34·0	·000	·004	0·3	·06	2·7	18·3	15·0	0	0	0·8	0·6
Sept. 15	Mrs. Bissell, Bissell Road, Quinton	34·2	·000	·004	0·3	·06	2·6	18·2	14·8	0	0	0·8	0·6

* "0" indicates "clear," "1" indicates "very slightly turbid."

† The colour is expressed in tintometer units. Red with an equal amount of yellow forms *orange*, yellow with an equal amount of blue forms *green*, and equal amounts of the three colours indicate *grey*.

City of Birmingham.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON

CHILD WELFARE IN 1913.

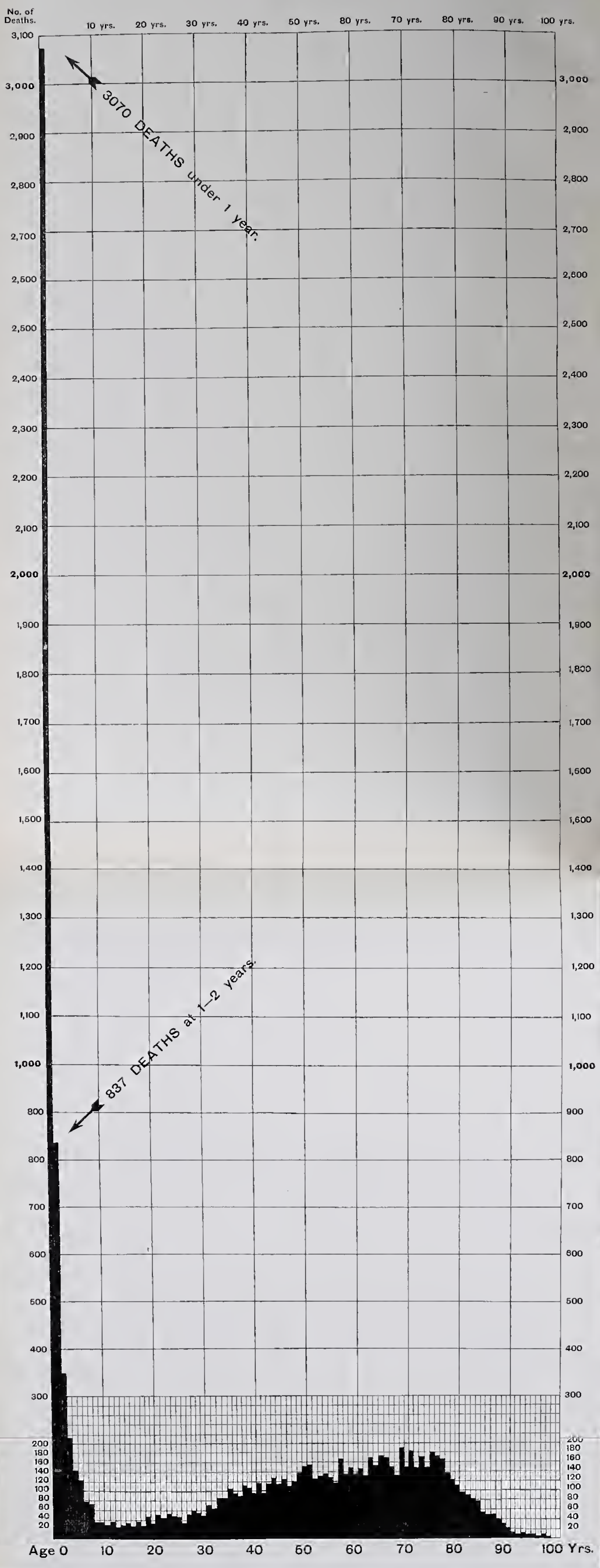
BIRMINGHAM:
Hudson and Son, Printers, Edmund Street and Livery Street.

1914.

CHART A.

1913.

DEATHS AT EACH YEAR OF AGE IN BIRMINGHAM.



PUBLIC HEALTH AND HOUSING DEPARTMENT,
THE COUNCIL HOUSE,
BIRMINGHAM, *May*, 1914.

To the Chairman and Members of the Public Health and Housing Committee.

CHILD WELFARE IN 1913.

The extent of infant mortality in Birmingham, as elsewhere, and the amount of permanent damage done by ignorance and carelessness on the part of parents to the young children of this city is still so great that the time appears to be opportune to consider whether something further cannot be done to prevent this unnecessary waste of human life.

In the present section of this report attention will be specially directed to infant mortality, *i.e.*, mortality among infants under one year of age; but, in addition, the needs of older children will also be considered. In former years it has been customary to deal only with infants under one year of age, but obviously it is important to consider the damage done by the preventable diseases to all young children, as these have such a profound influence in after life. It is probably true to say that a good deal of the inefficiency one finds so prevalent among adult men and women who have been born and reared in a city owes its origin to preventable illness acquired in childhood. There is nothing so expensive to a community as the idleness and want of energy of the inefficient.

Mortality.—In regard to mortality there are certain facts which stand out so prominently as to arrest the attention of every thinking individual. The extent of the mortality under one year of age as compared with that at any other age is well seen in Chart A, which shows the number of deaths in Birmingham at each year of age during 1913.

It is doubtful whether the mere statement that the infant mortality rate was 129 per 1,000 births during 1913 conveys an adequate idea of the waste which is annually taking place among infant lives.

During 1913 there were 3,070 deaths under one year, 837 during the second year, and 350 during the third year of life, *i.e.*, 4,257 deaths during the first three years of life. During the remaining 97 years shown on the chart there were 8,705 deaths, or an average of 90 deaths per year of life.

It is estimated that at any one time in 1913 there were at ages under three years 57,092 children living in Birmingham. The death-rate among children under three years per 1,000 living at these ages was therefore 74·6 per 1,000 in 1913.

On the other hand it is estimated that the number of children alive between eight years and fifteen years of age was 119,722. Among this group 235 deaths occurred in 1913. This is equal to a mortality rate of 2·0 per 1,000.

0— 3 years.	Death-rate	74·6 per 1,000.
8—15 ,,	,, ...	2·0 ,,

Considerably more than one-half of this mortality in infants and young children is easily preventable. Wherever one finds careful artisans living under fair conditions, the infant mortality rate is half of what it is in those districts where at present there is poverty and the accompanying carelessness and inefficiency. In St. Mary's and St. Bartholomew's wards the mortality among infants under one year per 1,000 births during 1913 was 229 and 205 respectively, while in Balsall Heath, Saltley, and Sparkbrook wards (all more or less crowded with artisans) the infant mortality rates were in each case less than half, *i.e.*, 99, 94, and 98. The table below gives the figures for each ward for 1912 and 1913, and Chart B shows diagrametically the distribution of infant mortality over the city in these two years:—

INFANT MORTALITY IN WARDS.

WARD.	Rate per 1,000, 1913.	Rate per 1,000, 1912.
Acocks Green	102	79
All Saints'	124	98
Aston	136	105
Balsall Heath	99	81
Duddeston and Nechells	179	180
Edgbaston	109	87
Erdington North	68	62
Erdington South	82	97
Handsworth	69	78
Harborne	54	87
Kings Norton	78	80
Ladywood	159	123
Lozells	100	102
Market Hall	155	138
Moseley and Kings Heath	60	74
Northfield	63	60
Rotton Park	137	112
St. Bartholomew's	205	134
St. Martin's and Deritend	180	136
St. Mary's	229	194
St. Paul's	162	134
Saltley	94	109
Sandwell	79	87
Selly Oak	82	57
Small Heath	113	85
Soho	104	76
Sparkbrook	98	90
Sparkhill	60	61
Washwood Heath	114	97
Yardley	67	109

Taking the mean mortality in the two years, the wards may be divided into an inner group with rates varying from 130 to 210 per 1,000 ; a middle ring in which they range from 90 to 130 ; and an outer ring in which they are below 90 per 1,000 These are indicated on the map on the opposite page.

The mortality in the one group of wards shown in the diagram is between two and three times as great as in the other.

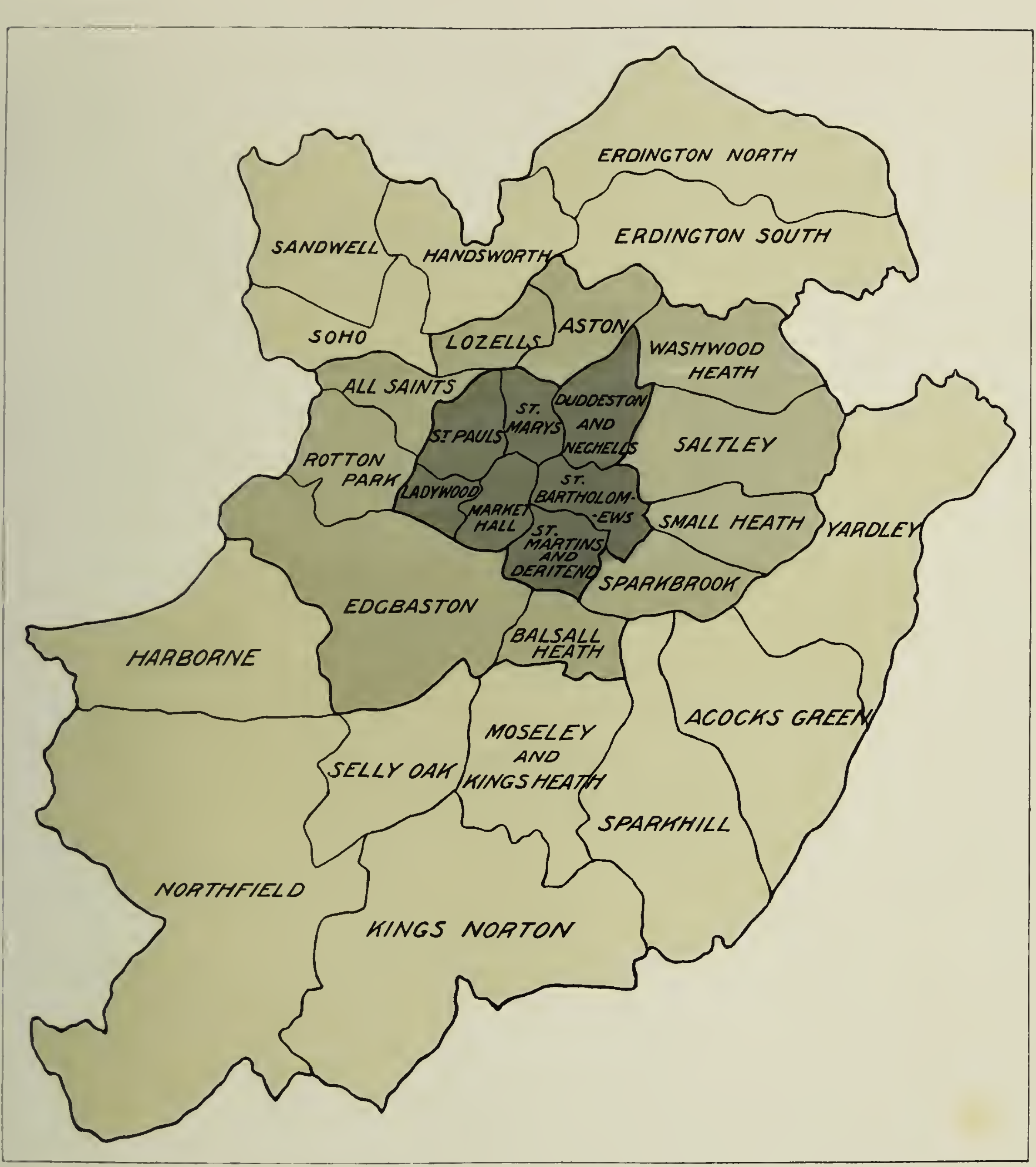
The Registrar-General in his report for 1911 has set out in tabular form for England and Wales the infant mortality rates according to the occupations of the child's father. From this table the following figures are copied:—

EXTRACTED FROM REGISTRAR-GENERAL'S ANNUAL REPORT, 1911.

INFANT MORTALITY RATE, 1911.

Father's Occupation.	All Causes.	Tubercle.	Diarrhœa and Enteritis.
Artists	27	—	10·1
Merchants	30	—	7·5
Doctors	39	0·8	8·6
Naval Officers	41	2·9	5·9
Solicitors	41	1·2	9·7
Army Officers	44	—	2·9
C.E. Clergy	48	—	5·2
General Labourers	167	5·0	44·4
Foundry Labourers	171	5·2	58·4
Dock Labourers	172	5·3	51·6
Iron Workers	172	5·5	53·5
Earthenware Workers	172	8·6	60·2
Brass Workers	174	4·0	57·7
Navvies	187	8·3	62·4
Factory Labourers	191	6·6	57·6
Scavengers	192	8·8	59·7
Costers, Hawkers	196	5·6	51·1

CHART B.

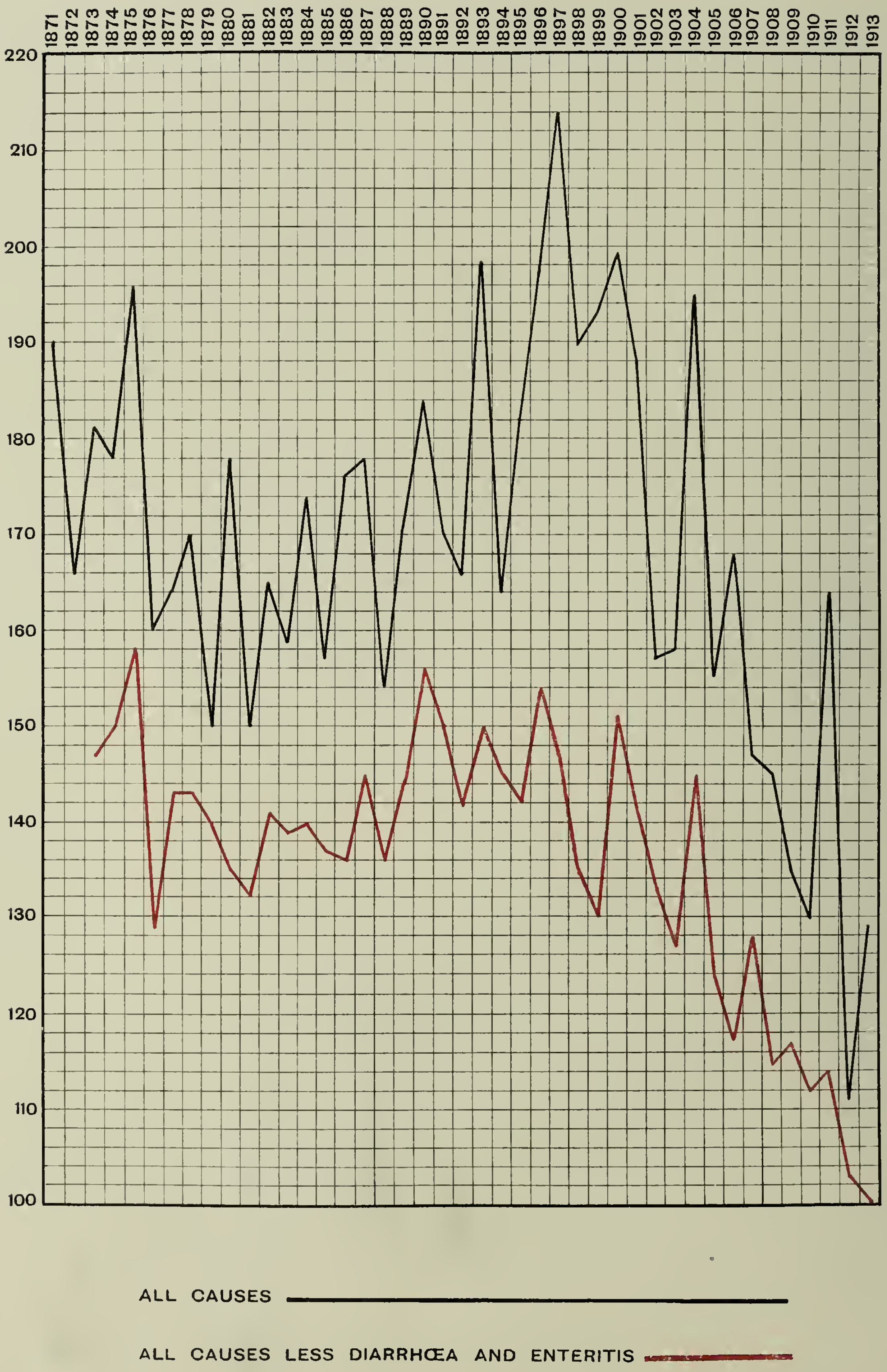


MEAN INFANT MORTALITY, 1912–13.

CENTRAL GROUP OF WARDS (Dark)	... ...	130–210	per 1,000
MIDDLE RING OF WARDS (Medium)	... ...	90–130	,,
OUTER RING OF WARDS (Light)	... ...	60– 90	,,

CHART C.

INFANT MORTALITY IN BIRMINGHAM PER 1,000 BIRTHS.



The mortality in England and Wales for the past five years was 20 per cent. below that for the five years 1901-5. For the same period the rates in Birmingham also showed a reduction of 20 per cent.

A very important point in studying infant mortality is the recognition of the fact that while it is true that many weakly infants succumb during the first few years of life, yet fatal illnesses are even more prevalent among the robust. This is specially so in regard to enteritis and other diarrhœal diseases in summer, and to pneumonia and bronchitis in winter. The records of the Health Visitors show that a larger number of robust and healthy infants die than of weakly infants. Then again it must be constantly kept in mind that weakly children often grow into men and women who are both physically and mentally of the highest order. One cannot but be struck in reading the biographies of the great men and women of England with the number of those who showed conspicuous genius and usefulness, and who were premature or weakly when infants.

While it is true that the present mortality rate among young infants is still heavy although much of it is preventable, it is equally true that the prospects of substantial reduction are most hopeful.

Since definite effort has been made to reduce infant mortality, the rate has fallen almost continuously. This is seen both in the figures for England and Wales and in those for the large towns.

Chart C shows the infant mortality rate in Birmingham for each year since 1872 (black curve). The influence of climatic conditions affects infant mortality very much by causing high rates during years having hot summers, and, in order to eliminate this, a second curve has been added (red curve) showing the infant mortality rate less that from enteritis and diarrhœa.

Locally special attention commenced to be paid to excessive infant mortality about fifteen years ago. In 1899 the first Health Visitors were appointed and handbills distributed. Later societies were founded, consultations, etc., established, and generally the work of prevention has been taken in hand more systematically. The general result of this has been a reduction of infant mortality all over the town. It is true that a long hot summer still causes an increase, but this rise is not so high as formerly. The rearrangement of ward boundaries in 1911 prevents accurate comparison being made except in the case of All Saints', Balsall Heath, St. Martin's and Deritend, St. Mary's, and St. Paul's wards, and in the areas which were added to the city at the last extension. In these cases the reduction during the past five years compared with the previous five years was as follows:—

	1904-8	1909-13	Reduction.
All Saints' Ward	146	120	18%
Balsall Heath Ward	117	97	17%
St. Martin's and Deritend Ward	181	161	11%
St. Mary's Ward	216	208	4%
St. Paul's Ward	174	167	4%
Aston District	152	128	16%
Erdington District	83	83	—
Handsworth District	105	86	18%
King's Norton District	98	78	20%
Yardley District	116	83	28%

Infant mortality is mainly due to a few well-defined groups of diseases.

In the next table is set out the number of deaths under one year for 1913, classified according to cause of death and age:—

INFANTILE MORTALITY DURING THE YEAR 1913.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	WEEKS.				MONTHS.				Total Deaths under One Year.
	0-1	1-2	2-3	3-4	1-3	3-6	6-9	9-12	
Chicken Pox	...	...	...	...	...	1	...	1	2
Measles	...	...	...	...	1	8	18	49	76
Scarlet Fever	...	...	...	...	...	2	2	4	8
Diphtheria and Croup	1	...	...	...	1	1	1	4	8
Whooping Cough	...	1	1	2	18	10	17	22	71
Diarrhœa	1	1	3	6	60	87	77	36	271
Enteritis	...	4	12	10	98	139	93	58	414
Tuberculous Meningitis ...	...	...	...	...	...	7	10	5	22
Abdominal Tuberculosis ...	...	...	...	1	8	16	14	14	53
Other Tuberculous Diseases ...	...	...	1	...	...	3	1	5	10
Congenital Malformations ...	24	14	9	6	24	13	5	5	100
Premature Birth	364	44	33	21	35	2	...	...	499
Atrophy, Debility & Marasmus ...	70	41	29	31	111	90	41	26	439
Atelectasis	29	6	4	2	4	1	...	...	46
Injury at Birth	18	2	1	...	...	...	...	...	21
Erysipelas...	...	1	1	2	3	2	...	...	9
Syphilis	1	1	4	6	13	8	3	1	37
Rickets	...	...	...	...	...	1	4	5	10
Meningitis (not Tuberculous) ...	...	...	...	...	6	11	16	18	51
Convulsions	16	12	6	9	35	33	29	11	151
Gastritis	...	...	4	5	17	23	7	5	61
Laryngitis...	...	1	1	...	1	2	...	2	7
Bronchitis...	4	3	10	13	52	58	55	29	224
Pneumonia (all forms)	1	3	4	5	32	52	82	77	256
Suffocation (Overlaying) ...	7	1	3	4	46	20	10	...	91
Other Causes	28	13	9	6	32	18	13	14	133
All Causes	564	148	135	129	597	608	498	391	3,070

Chart D shows diagrametrically the mortality among infants from the main groups of diseases. The figures are also given in tabular form in the statement below:—

DEATHS UNDER 1 YEAR DURING 1913.

Diarrhœal Diseases	746	deaths.
Prematurity and Malformation	599	,,
Debility, Marasmus, etc.	506	,,
Bronchitis and Pneumonia	480	,,
Convulsions and Meningitis	202	,,
Measles and Whooping Cough	147	,,
Suffocation	91	,,
Tubercular Diseases	85	,,
Syphilis	37	,,
Scarlet Fever and Diphtheria	16	,,
Other Causes	161	,,

The distribution of the infant deaths over the wards of the city will be found in the Table on page 11.

The mortality rates in the wards have been calculated for four of the principal groups of diseases. From the table below it will be seen that the rates vary greatly in the different wards:—

CHART D.

DEATHS UNDER 1 YEAR, 1913.

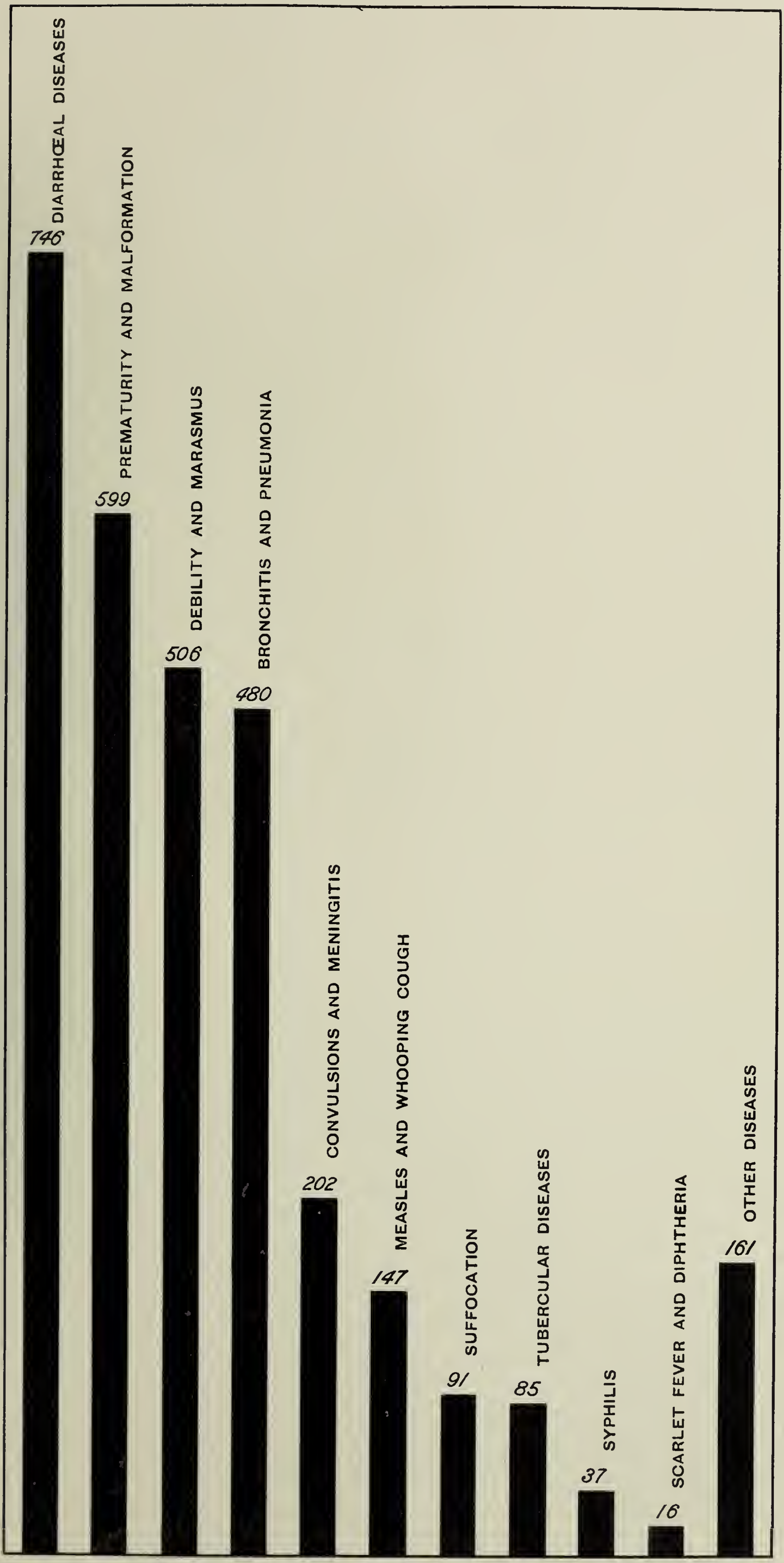
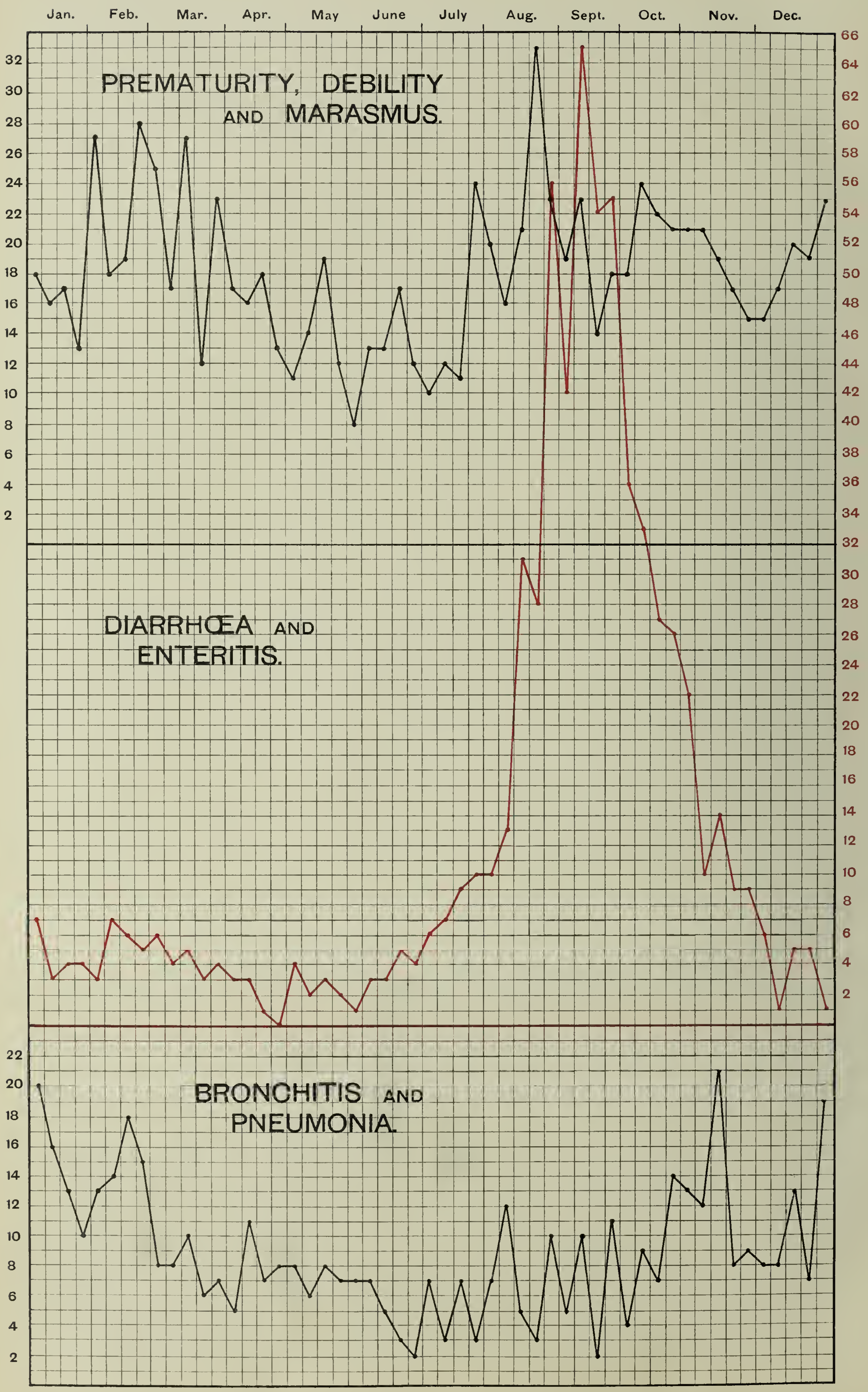


CHART E.

WEEKLY DEATHS FROM CERTAIN PROMINENT CAUSES IN 1913.



INFANT MORTALITY FROM CERTAIN CHIEF CAUSES.

WARD.	No. of Births.	Diarrhœa and Enteritis.		Prematurity and Malformation.		Debility, Marasmus.		Bronchitis, Pneumonia.	
		Deaths.	Rate per 1,000	Deaths.	Rate per 1,000	Deaths.	Rate per 1,000	Deaths.	Rate per 1,000
Acocks Green ...	764	8	10·5	24	31·4	10	13·1	17	22·3
All Saints'	1,314	45	34·3	38	28·9	16	12·2	30	22·8
Aston	1,362	48	35·3	41	30·1	30	22·0	22	16·2
Balsall Heath ...	942	16	17·0	18	19·1	8	8·5	16	17·0
Duddeston & Nechells	1,605	84	52·4	38	23·7	54	33·7	39	24·3
Edgbaston	551	7	12·7	20	36·3	4	7·3	11	20·0
Erdington North ...	368	6	16·3	10	27·2	2	5·4	2	5·4
Erdington South ...	380	3	7·9	11	29·0	4	10·5	4	10·5
Handsworth	540	9	16·7	9	16·7	5	9·3	3	5·6
Harborne	371	6	16·2	7	18·9	3	8·1	2	5·4
Kings Norton ...	511	4	7·8	7	13·7	7	13·7	7	13·7
Ladywood	925	36	38·9	17	18·4	24	26·0	22	23·8
Lozells...	826	19	23·0	16	19·4	9	10·9	14	16·9
Market Hall	432	13	30·1	15	34·7	6	13·9	14	32·4
Moseley & Kings Hth.	470	4	8·5	13	27·7	3	6·4	4	8·5
Northfield	174	1	5·7	6	34·5	1	5·7	—	—
Rotton Park	1,200	49	40·8	35	29·2	17	14·2	23	19·2
St. Bartholomew's ...	1,281	54	42·2	32	25·0	36	28·1	54	42·2
St. Martin's & Deritend	1,328	50	37·6	43	32·4	41	30·9	49	36·9
St. Mary's	1,179	73	61·9	48	40·7	39	33·1	38	32·2
St. Paul's	977	45	46·1	18	18·4	27	27·6	20	20·5
Saltley...	839	19	22·6	21	25·0	12	14·3	9	10·7
Sandwell	430	4	9·3	9	20·9	10	23·3	2	4·7
Selly Oak	723	5	6·9	14	19·4	7	9·7	5	6·9
Small Heath	726	14	19·3	18	24·8	8	11·0	16	22·0
Soho	615	8	13·0	14	22·8	10	16·3	12	19·5
Sparkbrook	946	17	18·0	17	18·0	9	9·5	16	16·9
Sparkhill	399	2	5·0	5	12·5	5	12·5	—	—
Washwood Heath ...	1,009	22	21·8	20	19·8	17	16·9	20	19·8
Yardley	419	6	14·3	7	16·7	5	11·9	2	4·8

Chart E shows for some of the most important groups of diseases the number of deaths registered during each week of the year.

Infantile Diarrhœal Diseases.—The diagrams and tables show that the largest cause of mortality among young children is derangement of the alimentary system. During 1913 no less than 746 infants under one year, 165 children between one and two years, 30 between two and three years, 10 between three and four years, and 5 between four and five years, died from diarrhœa and enteritis, a total of 956.

This is probably of all the causes of infant mortality the most easily preventable. Almost entirely it is due to want of knowledge or want of care in the methods of feeding and looking after infants.

There is now little hesitation in saying that dirt in various forms is the exciting cause of the disease—dirty milk, dirty feeding bottles, dirty clothes, dirty floors, dirty comforters, and, in fact, anything dirty with which the baby or young child comes in contact, is likely to set up diarrhœal diseases.

It was shown that in the third quarter of 1913 breast feeding, because it ensures cleaner conditions than bottle milk could, is a great safeguard from diarrhœa and enteritis. Up to the age of three months the deaths of bottle-fed babies were twenty times more frequent than those among equal numbers of breast-fed babies.

In 1904 it was shown that the dwelling houses of Birmingham could roughly be divided into two groups:—

(1) 54,000 houses with 4 rooms or less.
(2) 55,000 „ „ 5 rooms or over.

The year in question was one of high diarrhœal prevalence.

Among the first of these groups there were 756 deaths from diarrhœa. Among the second group there were 33 deaths from these diseases. That is:—

54,000 houses with 756 deaths.
55,000 „ „ 33 „

Of the deaths which occurred in the second group a good many occurred in the families of caretakers or on business premises. It is substantially correct therefore to say that summer diarrhœa is limited to the small house property, and practically non-existent in that half of the population who live in five-roomed houses or houses of larger size. The experience of the year 1904 has been repeated almost every year except in regard to the number of deaths.

In the next table is set out the percentage of houses with four rooms or under, together with the mortality rates from the same groups of diseases:—

RELATIONSHIP BETWEEN SMALL HOUSES AND DEATHS FROM THE CHIEF CAUSES OF INFANT MORTALITY IN 1913.

WARD.	Percentage of houses of 4 rooms or less.	INFANT MORTALITY RATE PER 1,000 BIRTHS.				
		All Causes.	Diarrhœa and Enteritis.	Prematurity and Mal-formation.	Debility and Marasmus.	Bronchitis and Pneumonia.
St. Paul's	70	162	46·1	18·4	27·6	20·5
St. Martin's	69	180	37·6	32·4	30·9	36·9
St. Mary's	63	229	61·9	40·7	33·1	32·2
Market Hall	63	155	30·1	34·7	13·9	32·4
Ladywood	63	159	38·9	18·4	26·0	23·8
St. Bartholomew's	62	205	42·2	25·0	28·1	42·2
Duddeston and Nechells ...	61	179	52·4	23·7	33·7	24·3
All Saints'	47	124	34·3	28·9	12·2	22·8
Aston	43	136	35·3	30·1	22·0	16·2
Rotton Park	40	137	40·8	29·2	14·2	19·2
Lozells	37	100	23·0	19·4	10·9	16·9
Sparkbrook	26	98	18·0	18·0	9·5	16·9
Balsall Heath	25	99	17·0	19·1	8·5	17·0
Northfield	25	63	5·7	34·5	5·7	—
Edgbaston	24	109	12·7	36·3	7·3	20·0
Soho	19	104	13·0	22·8	16·3	19·5
Washwood Heath	17	114	21·8	19·8	16·9	19·8
Harborne	15	54	16·2	18·9	8·1	5·4
Erdington North	13	68	16·3	27·2	5·4	5·4
Yardley...	12	67	14·3	16·7	11·9	4·8
Selly Oak	12	82	6·9	19·4	9·7	6·9
Handsworth	10	69	16·7	16·7	9·3	5·6
Saltley	10	94	22·6	25·0	14·3	10·7
Small Heath	9	113	19·3	24·8	11·0	22·0
Kings Norton	9	78	7·8	13·7	13·7	13·7
Acocks Green	6	102	10·5	31·4	13·1	22·3
Sparkhill	6	60	5·0	12·5	12·5	—
Moseley and King's Heath ...	6	60	8·5	27·7	6·4	8·5
Erdington South	5	82	7·9	29·0	10·5	10·5
Sandwell	4	79	9·3	20·9	23·3	4·7

Chart E shows that the mortality from this group of diseases is mainly a summer and autumn one. Had the rate of mortality during the first six months of the past year continued uniformly throughout the year, the lives of 495 infants would have been spared.

There are many conditions in the surroundings of an infant born in the central areas of a large city like Birmingham which make it very difficult for even a reasonably careful mother to rear her child without exposing it to the infection of epidemic summer diarrhœa. The chance of contact with infection in a court-yard is obviously greater. The lack of complete control of the near surroundings of the house is seriously detrimental. In many cases the fact that the mother has single-handed to care for and tend a large family as well as do the cooking and look after the household cleanliness gives her little time for that scrupulous care which is necessary in these districts. She is further handicapped by the want of those facilities for cleanliness which are available in the houses of the upper classes. But the practical point is that a very large number of mothers do apparently with ease rear their infants without attacks of diarrhœal disease.

To a large extent these central areas are occupied by mothers who are less well informed than those in better circumstances, and to a considerable extent these mothers are the least efficient in the whole city. Such people are driven to the crowded small houses by stress of circumstances, and the conditions of life there tend to exaggerate their inherent defects, one of which is a want of appreciation of the care necessary to protect an infant from fatal diarrhœa.

Poverty, drink and dirt make careless mothers and therefore dangerous mothers.

On page 25 of the Annual Report on the Health of Birmingham for 1912 will be found certain statistics which show that in one of the squalid areas of the city poverty made a difference of about 65 infant deaths per 1,000 births. The infant mortality rate in poverty-stricken homes was 192, while in the same area when there was apparently no marked poverty the rate was 127. Similarly it was shown that the percentage of babies at one year of age who were in good health was in poverty-stricken homes 60%, while in homes without poverty it was 71%.

In such areas drink plays an important part in increasing infant mortality. It produces carelessness, dirtiness, and poverty. If the evidence recently obtained in the Ladywood area by the Licensing Justices of Birmingham is correct, it indicates what a large proportion of the family income is often mis-spent, and how strongly this abuse calls for remedy.

In a large number of homes in the poorer-class districts it is the custom for the father of the family to make an allowance to his wife which is insufficient to enable her to feed and clothe the family and herself and pay the rent, without at any time telling his wife what he earns per week. In many such cases poverty exists in a home where the wages earned would be sufficient to provide decent surroundings if properly used.

Summer diarrhœa is largely a disease due to dirt. There is a great deal of evidence in these squalid areas where diarrhœal diseases are prevalent that there is a corresponding lack of personal cleanliness. The number of adults in these areas who do not often wash their bodies is considerable, underclothing is very dirty, and washed infrequently, the heads of many of the adult women are "crawling with lice," and so are those of many of the children, especially the little girls. In hospital, in the consulting room, at the examination of recruits for the services, and in other ways, there is ample evidence of this personal uncleanliness among adults.

This uncleanliness is evident among a large number of the babies in these areas, whose clothing is not washed often enough, with a result that the baby smells like a mouse's nest. Many babies, too, who are washed daily, and whose clothing is kept fairly clean, are allowed to crawl or "toddle" about in dirty places, and in this way come in contact with the dirt which is so fatal during the diarrhœal season.

Such babies pick up infection readily, and if to this is added the frequency with which they are allowed to upset their digestive organs by eating unsuitable articles of diet, one can appreciate the ease with which fatal diarrhœa is set up.

Prematurity, Malformation and Debility.—Prematurity and malformation accounted for 599 deaths of infants under one year, while debility and marasmus caused 506 deaths.

Except in the case of babies who were born in a malformed condition, it may be said that nearly all of these deaths were preventable. That is to say, that during 1913 1,005 deaths (1,105, less 100 malformations) were preventable, and largely due to some defect on the part of the mother before the birth of the child.

But this is only part of the case so far as maternal defects influence the life of the child. Under the Notification of Births Act there were 22,259 live births notified in Birmingham last year and 679 still births. If these 679 still births be added to the above deaths from prematurity, wasting etc., the loss of infant life due mainly to maternal cases was 1,684 in 1931, a wasting of human life which will be regarded as very serious for any one town.

The practical point is that a healthy woman who uses reasonable care does not give birth to these dead-born or enfeebled infants, and that a very great deal can be done in the direction of instruction to expectant mothers which will prevent this great waste of human life.

It will be obvious that our information on the subject of still births is very imperfect, and that some form of registration of all still births is clearly necessary.

But the immediate importance of definitely attacking the problem of ante-natal hygiene is that it enables much information to be given and precautions to be taken that will benefit the child which is born alive.

The distribution of deaths from prematurity and debility shown in the table on page 8 must not be taken as quite reliable, as the figures for some of the wards are based on somewhat insufficient data, *e.g.*, in Northfield the mortality rate of 34·5 per 1,000 births is calculated from the occurrence of six deaths out of only 174 children born.

Bronchitis and Pneumonia.—Little need be said about the occurrence of these diseases in young infants other than drawing attention to their prevalence as indicated in the tables. It may be said that the majority of the 480 infants who died from these diseases might have been saved had greater care been taken.

The table on page 11 shows that a majority of the other diseases attacking young infants are preventable, *e.g.*, suffocation, tubercular diseases, syphilis, etc.

Suffocation is the official designation for deaths due to "overlaying" of the infant. This should be entirely abolished by insisting in every case that the infant is placed in a cot and never allowed to sleep in bed with its mother during the first two years of life.

Tubercular diseases in infancy and children are largely due to milk, or to the presence of other persons suffering from the disease, *e.g.*, the infant's mother. From both of these sources of infection much can be done to protect the infant.

Syphilis.—It is possible by modern methods of treatment to enormously reduce the mortality and enfeebled health among infants caused by this disease. The method, however, has not yet been attempted on broad lines.

Deaths under one year registered in, or belonging to, each Ward during the year ending January 3rd, 1914.

Causes of Death.	Acock's Green	All Saints'	Aston	Balsall Heath	Duddeston and Nechells	Edgbaston	Erdington (North)	Erdington (South)	Handsworth	Harborne	King's Norton	Ladywood	Lozells	Market Hall	Moseley and King's Heath	Northfield	Rotton Park	St. Bartholomew's	St. Martin's	St. Mary's	St. Paul's	Saltley	Sandwell	Selly Oak	Small Heath	Soho	Sparkbrook	Sparkhill	Washwood Heath	Yardley	Not Located	City
Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken Pox	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2
Measles	4	4	...	4	4	1	...	...	1	...	3	6	1	...	...	...	4	8	6	3	1	1	...	5	5	...	4	5	1	3	2	76
Scarlet Fever	...	...	1	...	1	1	...	...	...	...	...	1	...	...	...	...	2	...	...	1	...	...	...	...	1	...	...	...	...	...	...	8
Whooping Cough ...	1	4	6	2	4	...	1	1	1	...	...	3	2	1	...	...	5	9	6	5	6	2	2	...	1	3	2	2	1	...	1	71
Diphtheria and Croup	...	...	1	1	1	...	...	...	...	...	...	2	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	8
Erysipelas	...	1	...	1	1	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...	...	1	1	...	...	...	1	...	...	...	...	9
Tuberculous Meningitis	...	...	3	1	4	...	...	...	...	...	...	3	1	2	...	...	1	1	2	2	...	1	...	...	...	...	...	...	1	...	...	22
Abdominal Tuberculosis	2	1	1	2	11	1	1	1	...	1	1	3	1	3	...	...	1	7	4	2	2	...	...	...	...	...	...	1	7	...	...	53
Other Tuberculous Dis.	...	4	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	1	2	...	...	1	...	...	...	...	...	...	...	10
Meningitis (not Tuberculous)	...	...	2	4	10	1	...	...	2	...	1	1	2	4	1	1	2	3	2	2	3	4	...	1	1	...	2	...	1	1	...	51
Convulsions	5	6	12	4	6	1	1	2	1	...	3	4	7	1	...	...	4	22	12	13	9	3	3	5	5	5	11	1	5	...	...	151
Laryngitis	...	...	...	...	1	1	...	...	...	...	1	...	...	1	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	...	...	7
Bronchitis	2	10	13	11	18	3	1	...	2	1	2	8	5	2	...	...	13	27	30	22	9	5	...	3	8	7	7	...	12	2	1	224
Pneumonia (all forms)...	15	20	9	5	21	8	1	4	1	1	5	14	9	12	4	...	10	27	19	16	11	4	2	2	8	5	9	...	8	...	6	256
Diarrhœa	2	17	20	7	26	3	3	...	3	1	...	11	9	4	...	1	12	29	25	37	23	14	1	...	7	2	5	1	6	1	1	271
Enteritis	6	28	28	9	58	4	3	3	6	5	4	25	10	9	4	...	37	25	25	36	22	5	3	5	7	6	12	1	16	5	7	414
Gastritis	1	...	5	2	6	...	...	...	1	...	...	4	1	...	1	...	1	5	2	14	1	...	...	...	4	5	3	...	5	...	...	61
Syphilis	...	1	2	...	2	2	...	1	3	...	...	3	1	1	1		1	1	3	5	5	1	...	1	...	1	1	...	...	...	1	37
Rickets	1	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	3	1	1	...	...	...	...	...	...	...	...	1	...	...	10
Suffocation, overlaying	...	4	2	2	9	2	...	...	...	...	...	7	6	1	...	...	6	10	9	11	9	1	...	3	...	2	1	...	6	...	...	91
Injury at birth ...	1	1	2	...	...	1	...	2	2	...	...	1	1	...	...	1	1	2	...	...	1	1	...	...	...	1	...	...	1	1	1	21
Atelectasis	...	2	...	6	3	1	...	...	...	...	2	1	...	...	...	1	1	6	1	3	...	1	...	7	3	1	3	1	2	1	...	46
CongenitalMalformation	6	3	8	6	4	4	...	1	4	...	...	2	2	2	3	1	5	2	5	11	4	5	1	1	3	4	3	1	4	2	3	100
Premature Birth ...	18	35	33	12	34	16	10	10	5	7	7	15	14	13	10	5	30	30	38	37	14	16	8	13	15	10	14	4	16	5	5	499
Atrophy, Debility, and Marasmus	10	16	30	8	54	4	2	4	5	3	7	24	9	6	3	1	17	36	41	39	27	12	10	7	8	10	9	5	17	5	10	439
Other Causes	4	6	7	5	8	6	2	2	...	1	3	6	1	4	1	...	9	8	7	8	9	2	3	5	6	2	6	2	3	1	6	133
Totals	78	163	185	93	287	60	25	31	37	20	40	147	83	67	28	11	164	262	239	270	158	79	34	59	82	64	93	24	115	28	44	3070

SUGGESTIONS AS TO THE FUTURE FOR LESSENING THE MORTALITY AND IMPROVING THE HEALTH OF THE CHILD POPULATION IN BIRMINGHAM.

From the experience that has been gained by the Public Health and Housing Committee as the result of their work during the past fifteen years, and from the general state of opinion on this subject, the time appears to be opportune for gradually extending the work of lessening the mortality and improving the general health of the infants and young children living in the City of Birmingham.

There is every reason to believe that the splendid results which have accrued in recent years from definite work in the direction of limiting mortality and improving health will with further effort be still more effective. That there is much to be done which is quite obvious and relatively easy of accomplishment has been indicated in the preceding part of this report. It should be remembered also that to a very large extent work which has been done in lessening mortality and improving the health of young children will later on be reflected in improvement in the health of the adult population of the City.

Generally, the lines along which further work must go are those of better education of parents, and particularly of the mothers of the children, as to what constitutes healthy conditions for the feeding and rearing of young children. Of lesser importance and of a more temporary character will be the advice and treatment given to mothers, infants, and children who are actually ill in the areas where ignorance exists and where immediate advice and perhaps temporary removal may save life or prevent serious illness.

As to the further educational work which is necessary, there appear to be two main lines along which it must go:

(*a*) A more extended and detailed training must be given to children in public elementary schools in the main principles of healthy living, and a larger amount of time devoted to the physical development of all children, and particularly those who are below the average. To a very large extent the responsibility for this work has been cast by Parliament upon the Education Committee and its medical and lay staff, and is at present restricted by conditions imposed by the Board of Education.

To prevent misunderstanding, it will be well here to state that in Birmingham the Education Committee have in past years done very substantial work in the direction of improving the physique of the children and in teaching the tenets of healthy living. The practice in the schools of the teaching of healthy living is so important for the future generation that it is desirable to leave no stone unturned in this direction, so as to ensure that every child leaving one of our public elementary schools, and particularly those in the areas where the largest amount of carelessness and indifference to health is shown, is adequately instructed. This would appear to be so important from the point of view of the public health that the cost of doing it might be partly or entirely borne as public health expenditure. Great credit is due to the elementary school teachers for the constant interest and care taken in children. If, however, one bears in mind that children from a good many homes in the City are left entirely uninstructed and more or less uncared for by their parents in matters of health education, it will be seen to be of great importance that no opportunity should be left unused to give this necessary instruction, and that the instruction should be given or supervised by those competent for the purpose. It would appear, then, to be very important to get the education authority of the City to work in the direction indicated above, fully recognising that a very large amount of work is being done at the present time.

(*b*) The real object of this report is to suggest further methods of imparting information to adults as to the rearing of young children, and to suggest methods of dealing with the health of parents, so that a healthy stock may be produced. Nearly every civilised country in the world has now taken up this subject with more or less vigour. It is probable that Birmingham has done as much as most of the other large cities in Great Britain, but when the work here is compared with that in many other countries one is bound to recognise that we fall far short of them in the completeness of our work. If there is any doubt about the desirability of spending money freely upon this object, it might be well for the Committee to see for themselves what is being done in other countries, and what a large amount of expenditure is devoted to ante-natal work and training for motherhood, and also for child welfare.

At present the work may be divided into two groups :—(1) That done by voluntary associations, and (2) that done by the Municipality.

(1) In regard to the work now done by voluntary associations :

(*a*) The Birmingham Infants' Health Society confines its operations to infants and young children in St. Bartholomew's Ward. After the houses at which births have recently occurred have been visited by one of the Municipal Health Visitors, the names and addresses of the babies born are sent to the Society, who have rooms at the Floodgate Street Medical Mission. Here consultations are held, and infants who are not thriving are sent to a medical specialist. Others are dealt with by the paid or voluntary workers where this can profitably be done, such as in regard to details of feeding, clothing, general management, etc. In addition, women who are about to become mothers in the area are advised on matters of health in various ways, and, again, the children up to school age are looked after as regards their health and upbringing.

During the year ending December 31st, 1913, there were 560 infants on the consultation register, and 427 mothers with infants attended the consultations, the average attendance at each consultation being about 59. The Public Health Committee make a contribution towards the current expenses of this Society of £25 per annum.

(*b*) The Settlement Guild for Mothers operates from Staniforth Hall, Staniforth Street, and carries on almost identical work with that of the Birmingham Infants' Health Society. It confines its work to St. Mary's Ward, and thus any overlapping between this and other Societies is prevented. Here also there are two medical specialists, who attend and give advice in cases where there is an obvious difficulty in the nourishment or rearing of the child, and both paid and voluntary workers assist at the consultation and in the various other departments of work carried on for the benefit of the mothers and infants. During last year there were 252 infants on the register. In this case also the Public Health Committee contribute £25 per annum towards the cost of the work.

(*c*) The Selly Oak and District School for Mothers and Babies Welcome has headquarters at Nos. 72 and 74 Exeter Road, Selly Oak. This Society works very much on the lines of the Stirchley Society. Its objects are set out in the following paragraphs :—

> "To assist poor married women at confinement and during the lying-in period especially with a view to diminishing the risk of life in so far as it may be due to preventable causes, such as neglect and want of cleanliness.
>
> "To reduce the infantile mortality in the district, and the ailments under school age, by means of the following :—
>
> Maternity Savings Club.
> The loan of linen.
> Gifts of blankets and linen in special cases of distress.
> Nourishment given to expectant and nursing mothers in their homes and at the cottage.
> Visiting by a fully qualified Superintendent and voluntary helpers.
> The teaching of Domestic and Personal Hygiene, Elementary Physiology, and infant management.
> Social intercourse and recreation."

(*d*) The Stirchley and Cotteridge School for Mothers and Babies Welcome is an organisation having its headquarters at No. 78 Windsor Road, Stirchley, but working on slightly different lines to the above. A large amount of attention is paid to the health of the mother, and also to the infant. In addition to voluntary assistants a paid worker is employed, the average attendance at weekly meetings being 12. The means adopted are set out briefly below :—

> "Weekly meetings, with talks on health, moral training, infant feeding and management, etc.
>
> "Weekly weighings ; when the women come separately, and our Superintendent has special opportunities of judging if the babies are thriving and of giving advice.
>
> "Visiting in the homes by the Superintendent, who then finds opportunities of giving useful hints on domestic as well as infant management.
>
> "A Maternity Savings Club, for those who are expecting little ones ; the money is returned to the mothers when they are confined, and to those who have saved 5s. and upwards we give one pint of milk daily for three weeks, and one pound of cocoa. This encourages them to save, but it also helps to ensure the babies having their natural food, the importance of which we cannot emphasise too strongly.
>
> "Members are entitled to borrow bed linen if they require it."

(2) Municipal consultations are held :—

1. Twice weekly at St. Edward's Mission Room, New John Street West. Here the infants from an area which corresponds to the old wards of St. Stephen's and St. George's, and has a population of about 40,000, are dealt with.
2. At the William White Memorial Hall, Windsor Street, once a week for babies living in the Duddeston and Nechells Ward, which has a population of 40,998.
3. At St. John's Mission Room, Darwin Street, once a week for infants residing in the area of St. Martin's and Deritend Ward, which has a population of 38,921.
4. Once a week at No. 44a Broad Street, for infants living in Ladywood and Market Hall Wards, with a combined population of 46,079.

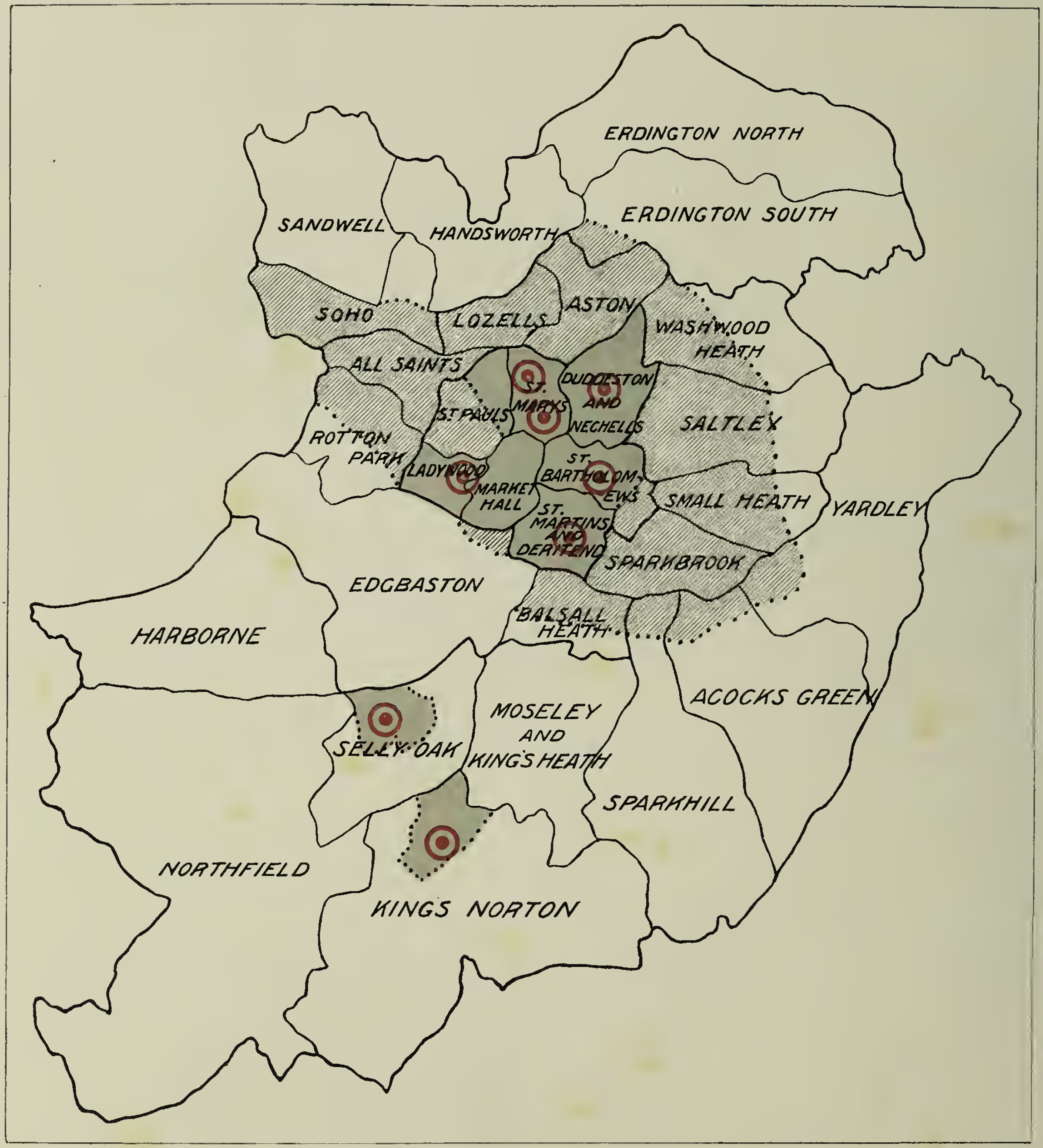
At these consultations the lady doctor employed by the Public Health and Housing Committee attends ; the infants are weighed, and advice is given in the case of ailing children up to one year of age. During 1913 the average number in attendance per week at each of these consultations was :—

St. Edward's Mission Room	41
William White Memorial Hall	29
St. John's Mission Room	63
No. 44a Broad Street	40

In addition to dealing with the infants, the lady doctor has in each of these cases given a certain amount of attention to ante-natal conditions, and also to children over one year of age, but the primary object, which is kept continuously in view, has been to deal with the children under one year of age.

At each of these municipal consultations there are special baby visitors, whose work is to attend at the consultation and to visit the babies born in the district, with a view to getting the mothers to bring their babies to the consultation when necessary, as well as to take great care in their management of them in their homes. There are five of these baby visitors attached to the municipal consultations.

CHART F.



EXISTING INFANT CONSULTATIONS	◎
AREAS SERVED BY THEM	■
SUGGESTED ADDITIONAL AREAS ...	▨

The Notification of Births Act gives early information as to where births have taken place, and enables the Visitor to attend within ten days or a fortnight of the birth in cases where such a visit may be useful. During 1913 16,219 primary visits were made for the purposes of this Act either by the special Baby Visitors or the ordinary Health Visitors. These visits are of immense value, not only in enabling instruction to be given to the mother about her own or her infant's health, but also in regard to household affairs.

Another very important result of these visits is in connection with the supervision of midwives. Frequently it is found from the Health Visitor's observation that there has been neglect on the part of the midwife, and such instances are reported to the Inspector of Midwives.

There are at present 21 Health Visitors, whose duty it is to visit from house to house in certain areas, as well as to visit houses where babies have been born. In cases where obvious neglect is found to exist revisits are made as frequently as time will allow. In addition these Health Visitors visit in the case of outbreaks of minor infectious ailments and for a large variety of other conditions. As a result they are brought into contact with the home conditions in the poorest areas, and the conditions under which babies are fed and reared are among the most important points to which they give attention.

There are many other agencies at work which indirectly bring influence to bear on questions relating to the health of mothers and infants. The staff of Tuberculosis Visitors are frequently able either to give advice or to hand on a special case to others. Similarly, a large number of the outside organisations in the City engaged in social work report to the Public Health Department cases requiring attention. In this respect the Poor Law Officers dealing with boarded-out children and the officers of many other public bodies indirectly take some part, although limited, in the work.

The map on the opposite page shows the areas in which consultations are now held. I believe that the value of these consultations can be very greatly increased, and it is suggested that the whole area of the City should be covered by such institutions, which might properly be called Welfare Stations for Mothers and Children.

One of the principal defects in our present arrangements is that it is almost impossible to carry on efficient work in any building not specially adapted for the purpose, and for this reason buildings should either be erected specially or old buildings should be properly converted for use. At these Child Welfare Stations the following should be regarded as the minimal requirements :—

(*a*) A medical consultation for mothers to enable ante-natal conditions to be thoroughly dealt with.

(*b*) A consultation for infants.

(*c*) A consultation for older children up to school age.

(*d*) Various classes for mothers for the teaching of elementary cookery and the type of needlework required in the designing and making of infants' clothing. Incidentally, a good many other matters might be introduced, such as savings clubs, the question of food values, etc.

The best results from these Welfare Stations will be obtained among the artisan classes rather than among the slum dwellers, and if your Committee decide to provide a really up-to-date institution as a first instalment for the City, I would suggest that it should be situated in an area where the largest amount of advantage will accrue.

It is obviously necessary to have a number of these institutions in a City the size of Birmingham, because mothers who are themselves ill, or have sick or delicate children, will not be likely to travel long distances to the institution. Probably about ten such stations will be required to cover the whole of the City.

It is hoped that Societies, such as the Birmingham Infants' Health Society and Settlement Guild of Mothers, if granted really substantial contributions, would easily be able to improve their present conditions, and in certain of the new areas of the City other Societies might be formed if suitable grants were made. There appears to be a real advantage in getting the largest possible number of lady workers to assist in this work, and one of the disadvantages of the municipality undertaking the whole of it is due to the fact that they are not so likely to get outside help. If the Committee decide to establish such centres, it may be possible to obtain a grant towards the expense of establishing the centres, and also a grant for their upkeep from the Local Government Board.

The work at these centres will not in any way interfere with the private medical practitioners in the neighbourhood, and it might be desirable to enlist their paid services in carrying them on. Such centres would undertake work which is at present not touched by the general practitioner.

Two voluntary agencies have been at work in Birmingham for a number of years in the poorest parts, supplying substantial meals to women who are either pregnant or nursing their babies, and who by reason of their husbands being out of work or other cause are quite unable to obtain sufficient food either to produce healthy offspring or to rear their children well. Some such organisation as this is desirable at these centres, and might be carried on in connection with the cookery lessons. It has been found that amongst the poorest class in Birmingham the food bought and the methods of cooking are most unsuitable and bad, and the ignorance amongst certain of the mothers as regards cooking food in the best way for young children is appallingly great. At one of these mothers' centres it was found that none of the women had any idea as to how to cook rice.

Such Welfare Centres as are outlined above could be very well dealt with by the ordinary Health Visitors, and the work done at such centres would substantially supplement that being done at the present time. It may here be pointed out that in many of these cases only repeated instruction has much effect.

Another provision which appears to be badly needed is very much larger accommodation for sick babies during certain periods of the year. Possibly, to begin with an attempt might be made to deal with infants suffering from epidemic diarrhœa during the hot months of the year. In houses where ignorance exists or where the conditions are eminently unsuitable there are a large number of cases in which from one or other of the above causes an infant attacked with infantile diarrhœa has little or no chance of recovery. It might be possible to take the worst of these cases into one or other of the City Hospitals, and to engage the services of a specialist to supervise their treatment.

A good deal can be done also in regard to other diseases occurring amongst young children in homes where ignorance and carelessness are so great as to make it probable that their lives would be lost. In many continental countries there are infant hospitals for these cases. At the present time the accommodation in the voluntary hospitals in the City does not in any way meet the needs at times of epidemic prevalence. There is some evidence that where such procedure has been adopted, even on a small scale, good results have accrued so far as mortality is concerned.

I remain,

Mr. Chairman and Gentlemen,

Your obedient servant,

JOHN ROBERTSON, M.D., B.Sc.,

Medical Officer of Health.

ROYAL STATISTICAL SOCIETY
7 SEP 1914